

MOTORCYCLE

RIDE 'EM, DON'T HIDE 'EM

CLASSICS

March/April 2020

BMW R69US

IT'S EASY BEING GREEN:
RIDING AND RESTORING
A GERMAN-POLICE-GREEN
1968 BMW R69US



PLUS:

- END OF AN ERA: MUSEO MORBIDELLI
- 1972 OSSA MICK ANDREWS REPLICA
- TWIN TWINS: NORTON ATLAS 650 NOMAD AND RANGER

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Spencer Graves brought this 1939 Moto Guzzi GTS back from Eritrea to his home in Tennessee. He started working on it in 1974, finally finishing it in 2011. And then he started on another GTS. See it all on Page 30.

BOSTELMAN PHOTOGRAPHY

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Brit Beater

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The Gearhead Gathering

One of the most rewarding parts of working for this magazine all these years has been meeting and interacting with all the wonderful people that make up the old motorcycle hobby. Meeting readers and enthusiasts at motorcycle shows and events throughout the years has allowed me to put faces with a lot of your names, your bikes and your stories. And as much as we love travelling to the big shows like the Barber Vintage Festival in Alabama, for the past four years we've also looked forward to our own Big Gig: The *Motorcycle Classics* Ride 'Em, Don't Hide 'Em Getaway, held each summer at Seven Springs Mountain Resort in Seven Springs, Pennsylvania.

When we started this event, we crossed our fingers and hoped we'd have 20-or-so readers show up and ride with us for the weekend. The first year 80 of you showed up, and we've shared each event since with nearly that many riders, enjoying great roads, tasty meals and a bit of bike-wrenching to boot.

We've also enjoyed hanging out with and getting to know our special guests, Brian Slark, Mark Mederski, Alan Cathcart and Dain Gingerelli. These kind gentlemen have shared their time and their stories with us, and we're very grateful for their presence at our event.

But enough looking back. Let's look forward.

This year, we grow. Produced in conjunction with our successful Getaway, for 2020 our Events team will morph the Getaway into something bigger: The Gearhead Gathering, still taking place at Seven Springs, but this year it moves to Labor Day weekend, Sept. 5-6, 2020.

In addition to the guided rides on some of the area's best roads, there will be a lot more going on throughout the weekend. We'll offer self-guided ride recommendations and routes for those of you who want to ride alone or in smaller groups, setting your own pace. Plans are also in the works for a hill climb, a woods race, a bike show, a swap meet, workshops and even displays and demonstrations of vintage farm equipment presented by sister titles *Farm Collector* and *Gas Engine Magazine*.

For continued info, head to GearheadGathering.com, where you'll have the ability to buy tickets and lodging packages, and where we'll publish all the updates as plans progress.

Cheers,

Landon



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Too hot to handle

I am responding to the short article on Page 6 of the January/February 2020 issue of *Motorcycle Classics* about the Norton Fastback: “Another Fastback.” I had my own “flame-on” experience with my Fastback, similar to the author of the article. As a 17-year-old in 1975 I had built a Fastback from a basket case. I had ridden it to a spray-and-wash to clean it. After soaking it down, I popped off the points cover (mounted under the carbs) to dry out the points. I left the cover loose and took off. Sometime later a float bowl screw vibrated loose resulting in gas dripping onto the points. A buddy and I were on the bike when flames shot up from below. He jumped off and I ditched the bike only to watch it go up in total flames.

After the fire department put it out, I found that the fire had melted the carbs into a puddle on the asphalt. I scraped them up and kept them for several years. I finally put them in a shadow box (see photo) as a memento. You can see the slide springs, mounting studs and main jets in the picture.

I thought I was the only one, but after reading your article, I feel a bit of vindication ...

Dave Kaufman, aka AJS Dave/Georgia

The Honor Guard

Your fine publication continues to bring great joy to this reader. The recent article titled *The Honor Guard* penned by superb storyteller John L. Stein, with complimentary snaps by the equally talented photo artist Seth DeDoes, is a keeper!

The adventure of Stein and Randy Pobst preparing and then piloting a 1958 Austin-Healey whilst towing a 1964 Allstate utility trailer, carrying a special cargo of a 1954 and 1955 Matchless G80s to The Quail Motorcycle Gathering is a read of a lifetime! Stein weaves an adventure story that grabbed this reader’s curiosity from the first phrase.

Stein summarized the entire adventure (and perhaps the reason for your readers’ passion for the Old Ones) with these two phrases: “What transpired on a cool fall day was like a Matchless Woodstock, except that no one was in it for the money or music or fame. It didn’t need explaining, and it didn’t need selling: it was just understood that these two old bikes were somehow more than just two old bikes.”

Keep up the good work; your magazine is more than just a magazine!

Pete Dopson/via email



Gone, but not lost

Of the more than 40 bikes I’ve owned there were several you could not give me today, even for display. But, yeah, one fondly remembers certain past bikes and would welcome them back if the reality weren’t that those have now most probably been recycled into patio furniture or Keurigs. My first Honda, a 1961 CA95 Benly, purchased in 1961, is such a nostalgia magnet. I’d had two bigger bikes (250 BSA, 500 AJS) but the Benly was as red as a valentine and just as welcome, making work trips of 50 miles each way twice every week that summer to and from the Olympic Peninsula. Much later, another fire engine red bike — this a 1978 Yamaha XS750E — proved pride-worthy in every way. I hesitate to mention two 1978 Kawasaki Z1-Rs owned in later years because they were resold reflecting their rather UJM ordinariness, except for styling that has caused the price to soar in recent years. OK, the bike I’d welcome back but don’t regret not having is another red roadster, Yamaha’s 1983 XJ900 Seca. I say “no regrets” because I donated it to the Barber Motorsports Museum one year ago. Not many were sold here (maybe a thousand?) and the machine was both well equipped for its year and still light and comfortable. With luck, Barber will choose to find a spot to display it and I will return there to see it yet again.

Pat Halstead/via email



Before and after

I thoroughly enjoy your magazine and thought I would show you my winter project. I purchased this 1975 Triumph Trident as a basket case a few years ago and finally put the finishing touches on it. This was the unobtainable Superbike to me in high school. I could have built two motorcycles from all the parts it came with. After hours of cleaning, sorting, replacing rotten rubber parts and polishing aluminum, I got the bike running this sum-

mer. I de-chromed several parts and had them painted in their original color and had the tank properly done with period-correct paint found by a vendor in your magazine.

It is a pleasure to ride around, and I'm amazed at all the comments and thumbs-up I receive. Enclosed are two pictures. I'm pretty sure you can tell which one is the before and which one is the after.

Steve Sullivan/Weldon Spring, Missouri

Limited Edition power

I worked at a Honda dealership 1982-1985. The two "old guys" who worked there had been there since the mid-1960s and were dedicated Honda loyalists and good students of the brand. I have never seen this printed, but as a fact of doing business and shipping bikes all over the world and from personal experience gaining plug readings on new motors out of the crate, Honda runs every motor on a dyno to aid in break-in, evaluate noises with regards to quality control, and evaluate some ballpark horsepower to verify that the engine is acceptable to ship around the world. That said, the old guys told me that the Limited Edition 750, or Anniversary Edition as we frequently referred to them, had

the highest horsepower engines pulled off the assembly line and installed in them. These weren't special engines, just the cream of the crop. Just something that I thought your readers would find interesting.

Greg Hall/Grove, Missouri

Kansas roads

I enjoyed your column (*Shiny Side Up*, January/February 2020). I too really enjoy riding K4, but I don't stop at Dover: K4 is kind of one of those hidden gems that seems almost out of place for Kansas. I'm near Kansas City, and one of my favorite rides is out K4 to 177 and then down to 56, working my way back. I highly recommend staying on K4 all the way out to south of Salina and stopping at Coronado Heights. If you haven't

been there you really need to put that on your to-do list.

My rides are a 1999 Kawasaki ZRX1100, a 1978 Yamaha XS750, and several Yamaha Visions. Everything needs work before I can ride. Need to work on that too.

Jeff Swan/Parkville, Missouri

Correction

Editor's note: In our How-To column in the January/February 2020 issue on converting a Triumph 6-volt charging system to a 12-volt charging system for better lighting, we listed the incorrect town for supplier Klempf's British Parts. They are located in Dodge Center, Minnesota, and can be reached at 507-374-2222 or klempfsbritishparts.com. We regret the error. — Ed.



EBay find

I saw this bike on Barn Finds and then won the bid on eBay. I have been having fun replacing worn parts while keeping the original paint and low miles intact. YouTube, eBay and others have been a great source of parts. I rebuilt the carb, put in new lights, even in the speedo and tach, fixed some small shorts in various old wires and had a Yamalube oil pump rebuilt by the best in the business. I also picked up an original shop manual and owners' manual to add to my knowledge about this amazing machine. I also picked up a Nexx helmet to add to the riding pleasure. This bike was confined to an RV park by its original owner for most of its life. I purchased it from a dealer in Arizona through eBay that handled the sale for the RV park owner who was ready to sell it. It's a time capsule with patina from its life putting around the RV park. Please share it with your readers. I'm looking forward to warmer weather so I can stretch it out once again.

Peter Tremulis/Deerfield, Illinois

1993-1998 Triumph Tiger 900

It took quite a while for us on the left side of the pond to catch on to adventure bikes: it's fair to say that the U.S. motorcycle market was about cruisers, dirt bikes and street standards until the late 1990s. Though Honda's Africa Twin, Yamaha's Super Tenere and BMW's R100GS were all top sellers in continental Europe, only the Beemer ever made it to the U.S. So when the first generation 650cc Cagiva Elefant arrived in 1984, U.S. testers couldn't get their heads around it — especially its weight: "twice that of a 250 motocrosser," said *Cycle* magazine in December 1985, noting, "when 454lbs of motorcycle gets away from you, the chances of snatching it back are slim."

But by the early 1990s, there was some indication that the U.S. market might catch on. The 1993 Triumph Tiger (shown) was aimed squarely at German and French buyers, and it wasn't until 1995 that the Tiger made it to these shores.

The new Triumph company also had a steep hill to climb to dispel conventional Triumph lore about oil leaks, flaky electrics, marginal reliability and poor finish. Perhaps because of this, the first-generation Hinckley Triumphs were substantially overbuilt, while adopting well-proven technologies, quality components and fastidious quality control. The machines were assembled in a brand-new factory built on a green-field site with the latest machine tools and production methodology. Fortunately, Triumph owner John Bloor had deep pockets.

Though with a very different stance and styling, the Tiger was still based on Triumph's modular motorcycle concept introduced in 1990. It used essentially the same 885cc 3-cylinder, liquid-cooled, DOHC 12-valve engine with 6-speed transmission as the 900 Trident, Sprint, Daytona and Speed Triple, but was retuned for torque.

Carburetion was by three 36mm flat-slide Keihin CVs with digital ignition providing sparks. Compared with the 97 horsepower engine used in most of the new Triumphs, the Tiger made fewer horses at 84, but similar torque of 61lb/ft @ 6,000rpm. Significantly, torque at 3,000rpm was higher by 25%.

The motor hung from the same beefy spine frame as



the other new Triumphs, with a non-adjustable Kayaba front fork giving 9 inches of travel. The swingarm was controlled by a single Kayaba spring/shock with 8 inches of travel as well as pre-load, compression and rebound adjustment.

Tires were 110/80 x 19 inches up front and 140/80 x 17 inches in the rear. Stopping was by dual floating 11-inch discs with 2-piston calipers at the front and a single 2-piston-caliper 10-inch disc at the rear. The result was a street missile with somewhat limited off-highway capability, mainly because of its weight and high center of gravity.

"Nine hundred cee-ces of gargly triple; 130mph, scary wheelies, and a seat as tall as your average five-year-old does not an off-roader make," wrote British magazine *Bike* in 1993.

But like other adventure bikes, it excelled on twisty mountain roads with indifferent surfacing.

"The Tiger enters a stomping ground the BMW GS, Cagiva Elefant, Africa Twin and Super Tenere all jealously call their own," wrote *Bike*. "Fast corners are lined up, snapped and then balanced with the throttle and body-weight."

And the Tiger was also considerably quicker than the

ON THE MARKET

1988 BMW R100GS/\$10,000

Though we normally highlight an example of our feature bike for sale here, we didn't find a current listing for a 1993-1998 Triumph Tiger 900 anywhere. EBay failed us, our favorite Search All of Craigslist tool failed us, etc. So we present to you a lovingly maintained, 21,000-mile R100GS in surprisingly original condition we found on cycletrader.com. It has a few scrapes, but it also has rebuilt carbs, a new factory charging system, new tires and rebuilt forks. The \$10k asking price may be a bit much, but if it's low miles you're after ...



"Like other adventure bikes, it excelled on twisty roads with indifferent surfacing."

competition. *Bike* wrote that its top speed left the competition standing: "... when the likes of the GS, Super Ten and Africa Twin are coughing their lungs up at around a ton-ten."

The only real complaint was around the "budget" suspension: the Kayaba fork was acutely under-damped and non-adjustable.

"Forks dive violently," wrote *Bike*, but added, "What the squashy forks lack in adjustment, the rear Kayaba

TRIUMPH TIGER 900	
Years produced	1993-1998
Power	85hp @ 8,000rpm
Top speed	130mph (period test)
Engine	885cc (76mm x 65mm) liquid-cooled, DOHC, 12-valve triple
Transmission	Straight-cut gear primary, 6-speed, chain final drive
Weight/MPG	455lb (dry), 38mpg (avg.)
Price then/now	\$9,895 (1995)/\$3,500-\$8,000

shock makes up for."

So having pitched its adventure bike squarely at street riding, was the Tiger a bridge too far? Or the shape of things to come?

Then Ewan and Charley happened, demonstrating that it was possible to muscle a 550-pound adventure bike around the world — albeit with a film crew and support vehicles.

Suddenly, 2-wheeled supertankers had off-street cred. **MC**

CONTENDERS Big adventure bike alternatives to the Triumph Tiger

1988-1994 BMW R100GS

Developed from another Dakar bike — Hubert Oriol and Gaston Rahier's four-time-winning R80G/S — the production R100GS incorporated BMW's Paralever single-sided swing-arm to control torque reaction and added a non-adjustable Marzocchi fork and single Brembo front disc brake. The drivetrain was similar to other contemporary R100 models with 40mm Bing carbs (32mm in the U.S.) and Bosch electronic ignition. More offroad focused than the Tiger or Elephant, the R100GS rolled on a 90/90 x 21-inch front tire and 130/80 x 17-inch rear. Likewise, the engine was tuned for torque, with respectable grunt available from idle speed. The suspension would accommodate substantial bumps and potholes (with 9-inch travel front and 8-inch rear), yet felt plush on the street, where the GS's handling was competent but not quick. Brakes were just OK, and marginally adequate on the heavier "Paris-Dakar" model. Fabled BMW longevity and relatively easy maintenance made the GS popular with long-distance riders, and high recorded mileage is not necessarily a negative. That said, watch for driveshaft issues and alternator problems. Tipovers can also cause cylinder head studs to pull out of the crankcase, so look for rocker cover damage. Overall, though, a durable and reliable work-horse.

- 1988-1994
- 60hp @ 6,500rpm
- 112mph
- 980cc (94mm x 70.6mm) air-cooled, OHV flat twin
- 5-speed, shaft final drive
- 462lb wet/48mpg
- \$7,490/\$4,000-\$10,000 (1993)



1993-1997 Cagiva/Ducati 900 Elephant

Though three Tigers were entered in the 1994 Paris-Dakar-Paris race, their absence from the winners' circle sums up their performance. The Dakar Rally that year was won by Edi Orioli riding a 900 Elephant — as he had done in 1990. In all, 900 Elephants gained nine Dakar podiums in eight years. The race-replica 1990-91 "iniezione elettronica" never came to North America: but a Ducati-badged Elephant did make the crossing in 1993.

The belt-drive SOHC "desmodue" engine was a retuned version of the 900SS motor, fed by two 38mm Mikuni CV carbs with Kokusan electronic ignition. The dry clutch drove a 6-speed transmission by helical gear. Showa USD forks controlled the 19-inch Akront spoked front wheel, with a rising-rate aluminum swingarm, a single Sachs shock and a 17-inch rear wheel. Brakes were triple 10-inch discs with Brembo Goldline calipers. The 5.8 gallon tank gave a range of 200 miles. If the Tiger was 90/10 road/trail, the Elephant was maybe 70/30. Relatively light and nimble with fine handling, decent grunt and good brakes, the E900 was let down by suspect electrics (especially the charging circuit) and a weak rear shock. Finish was also indifferent. Regular maintenance, especially valves and cam belts was a must. It

was no dirt bike, but with available electrical upgrades, the E900 Elephant still makes a capable back-road canyon carver for occasional off-highway excursions.

- 1993-1997
- 68hp @ 6,500rpm
- 114mph (approx.)
- 904cc (92mm x 68mm) air-cooled, SOHC L-twin, 2 valves/cylinder, desmodromic actuation
- 6-speed, chain final drive
- 449lb/40mpg (approx.)
- NA/\$3,000-\$6,000 (1993)



EASY BEING GREEN

1968 BMW R69US



Story by Margie Siegal
Photos by Nick Cedar

“B” “BMWs are considered to be nearly immortal.”

— Roger Lovin,
The Complete Motorcycle Nomad (1974)

Most people who own vintage bikes put, at most, a couple hundred miles on them a year. George Canavan has put over 6,000 miles on this 1968 R69US, and he continues to ride it on a regular basis. “The ride is rewarding — it’s very, very smooth, and reasonably quiet.”

Before BMW started building sport bikes in the late 1970s, most North Americans who bought the German-built twins did so because they wanted to go from Seattle to Pensacola on two wheels, with maybe a little side trip to the Yucatan. In an era when motorcycles were expected to make noise, break down and leak oil, BMWs had a reputation for comfort, reliability and clean operation.

Few BMWs were imported to America before the late 1940s. Interest was sparked by American GIs, who were impressed by the sophisticated motorcycles of the German armies of World War II. Some bikes were liberated by the Allies and made it over to this side of the Atlantic. After the war, the Munich-based



company did not have permission to manufacture motorcycles until 1947, and when motorcycle production did get the green light, it took some time to get up to speed, since all the blueprints were in East Germany. Finally, production restarted in 1948 with a reverse-engineered single. Manufacture of BMW's signature flat twins resumed in 1950.

Inspired by the tales of returning GIs and the postwar motorcycle boom, some enterprising enthusiasts looked into importing BMWs. The first factory-authorized U.S. importer was Victor Harasty. He was bought out by Butler & Smith in 1953, who was the U.S. importer for many years until the import function was taken over by BMW Motorrad USA.

The American market

BMW's were very different from their American and British competitors. They were expensive, but built to exacting standards, relatively quiet and, for the time, very reliable. Many people found a BMW to be just the thing for long-distance touring. The word spread among the very small group of American motorcycle touring enthusiasts out on the improved roads of the 1950s and early 1960s. BMW, used to making less powerful machines for the German get-to-work market, soon learned that if they wanted to sell bikes in America like the British were then doing, they had to produce bikes that Americans wanted. Americans wanted more horsepower,



1968 BMW R69US

Engine: 594cc air-cooled opposed twin, 72mm x 73mm bore and stroke, 9.5:1 compression ratio, 42hp @ 7,000rpm
Top speed: 103mph (period report)
Carburetion: Twin 26mm Bing
Transmission: 4-speed, right foot shift, shaft final drive
Electrics: 6v, coil and breaker points ignition
Frame/wheelbase: Double loop cradle frame/56.18in (1,427mm)
Suspension: Telescopic forks front w/hydraulic damping, dual shocks rear
Brakes: 7.8in TLS drum front, 7.8in drum rear
Tires: 3.5 x 18in front, 4 x 18in rear
Weight (curb): 439lb (199.5kg)
Seat height: 29.1in (740mm)
Fuel capacity/MPG: 6.5gal/40-45mpg (est.)

economy be damned.

In October 1951, BMW unveiled the R68, a 594cc sporting twin with a narrow front fender, bigger overhead valves, a higher compression ratio, a hotter cam and bigger Bing carburetors. In 1955, the R69 was introduced with a new chassis. A swingarm rear end replaced the previous plungers, the famous Earles forks debuted and a new frame was introduced. A new 4-speed gearbox featuring an improved input shaft shock absorber was matched to a new dry clutch with a diaphragm center spring. Like previous BMWs, the new R69 came in any color you wanted, as long as it was black with white pinstriping.

The R69 was comfortable at a sustained 90mph on the Autobahn — or the better American roads. A 1956 report from the English journal *Motor Cycling* was enthusiastic: "Seldom has

the tester straddled a machine which made high-speed cruising so ridiculously easy! At 85 to 90mph, with the suspension smoothing out the bumps, the engine vibrationless, and the exhaust note a steady drone, nothing but the whistling of the wind and the needle of the speedometer indicated one's speed. It was just like riding a big, comfortable car."

In 1959, John Penton rode a R69 from New York to Los Angeles in a bit over 52 hours. In a *Cycle* interview shortly after his record-breaking ride, Penton stated that he had no mechanical trouble at all, despite 200 miles of hard rain through





Oklahoma, and averaged 40-45mpg. Floyd Clymer, then *Cycle's* publisher, was impressed by the fact that the BMW showed no signs of leaking oil.

The BMW factory went through some hard times in the late 1950s, but by 1960, things had improved, and the R69 was replaced by the R69S. The compression ratio was upped to 9.5:1, which raised output to about 42 horsepower at 7,000rpm. Early "S" models had some reliability issues, often due to being repeatedly ridden at racing speed on the Autobahn. In 1962 the bottom flanges of the cylinder barrels were beefed up and in late 1963, a vibration damper was added to the crankshaft, which cured the problems.

In an effort to do more to cater to the export markets which were buying a large percentage of BMW's production, the company started experimenting with special order colors. Dover White and Granada Red were the more common choices, but a buyer could actually order any color available for contemporary BMW cars. Concerned that the Earles forks looked antiquated, a new telescopic fork became available via special order in 1967. BMW had entered several factory-prepped bikes with the telescopes and a special frame in the International Six Days

Trial in 1963 and 1964 and although the bikes were too heavy to keep up with the competition, none of the BMWs broke down. The Six Days Trial proved the telescopic forks designed for the event, and these were used for the road bikes. Telescopic front end bikes had "US" after the model number. According to BMW expert Jeff Dean, BMW built 83 1967 R69US bikes, 443 1968 R69US bikes and 430 1969 R69US bikes. George Canavan's green machine is one of the 1968 models.

Period reviews

Cycle magazine did a road test of the 1968 telescopic fork R69US in June 1968. Testers commented that at low speeds the telescopes felt heavy and tended to oversteer, but over 40mph they worked well and over 65mph they were superb, especially on winding, rough surfaced roads. The 8.4 inches of fork travel was unusual for the time, with progressive damping and springing. The *Cycle* test riders praised the reliability of the machine: "Not one single mechanical complaint during 1,200 miles of hard testing!" and the smoothness of the engine: "smoothest running motorcycle engine we have tested." The downside was the lack of low end torque. Quarter-mile times were important



The 594cc air-cooled opposed twin puts out 42 horsepower. The opposed layout offers easy access to valves and carbs.



The tool kit sits in the tank (above). Bar-end turn signals are period European parts (far right). George on his R69US (below).



2-stroke road bike. Brakes are improved and progressive, transmission shifts are smoother but not quite as nice as later 5-speed boxes. For the /5, electric start, oil filtration, better carbs on the larger displacement and the inclusion of a 750 in the lineup are just icing on the proverbial cake."

to most riders at the time, but the BMW wouldn't "get off the line." Potential BMW owners didn't care.

In 1969, BMW moved its motorcycle factory from Munich to Spandau, near Berlin. At the same time, the motorcycles it produced were completely revamped. The new /5 machines featured the ISDT frame and telescopic forks, a completely new engine, and new Bing carburetors. "Comparing the /2 [the BMW model family of which the R69US was a member] to the later /5 is informative," says George Canavan, who owns both. "The /5 retained the kickstarter, the drum brakes and 4-speed transmission, but there are significant differences. With a new frame and short wheelbase, handling is light and athletic, almost like a 400-500

Road Rider magazine published a survey of BMW riders in 1971, including photos of some of them. A middle class and mainstream appearing group, they appeared older than the average motorcycle rider of the time. Very few women rode in the 1960s and early 1970s, but several of the BMW owners interviewed were women who had their own bikes. Most of the interviewees had hung on to their older machines. The surveys that came in from owners of newer bikes "revealed two significant facts. First, the acceleration and top speed are appreciably higher than for previous models and are comparable with the competition's Superbikes. Second, availability of parts is terrible."

George's R69US

Although not many BMW twins were built in the 1960s, a very high percentage have survived, and since most of these are being ridden and are not on static display, parts availability has actually improved since 1971. George Canavan says that although BMW owners have a reputation for maintaining their rides, often older BMWs that come on the market are the victims of neglect; age or declining interest having led the owners to stop changing the oil. "A rebuild is expensive, but you can get all the parts." In most cases, the bike is fixable, and once fixed, will stay that way. "If you follow what is in the book, the bike will run forever."

George has been riding since he was very young. "I had three uncles that were motor cops. I fell in love with shiny chrome and the great noise." During much of the time he rode modern bikes, earning several Iron Butt mileage certificates, but after a while, he started to feel vaguely discontented. "I went through a series of bikes that were nothing more than appliances. Then I bought an R60 BMW (the lower compression 600cc twin) and rode it for a while with no issues. That led me to consider other vintage bikes."

He bought this bike from Kevin Brooks at Brooks Motor Works in Olympia, Washington, a specialist in old BMWs. The bike was originally Avus Black with white pin stripes — the stock color of all BMWs at the





time. It was all there, but worn and “cosmetically challenged.” George decided to take the bodywork down to bare metal and bring it back to 100% appearance. “As it was coming apart, the discussions were about color. Did the world need another black BMW or should we go for something different? That was not the hard part! Just what color should we shoot for?” George wanted something period-correct, but different, and chose the bright green used by the German police departments of the time. Kevin Brooks matched the paint to the color of a patrol bike in the BMW Museum.

As the restoration went along, George decided on some other changes from the way the bike had originally looked. All of these variations are items that are currently accepted in the BMW vintage community. U.S. market handlebars and mirrors were changed to the Euro bars and mirrors. The Hella bar-end blinkers were available in Europe at the time, but not in the U.S. market. The dual saddle gave way for a sprung Pagusa “tractor seat” and pillion cushion. Alloy rims usually came stock with most R69US machines. Brooks located Borrani alloy rims and laced them with stainless spokes. He also found the larger, 24 liter (about 6.3 gallons) BMW Sport fuel tank with the tool box on top. An alloy oil pan was added to deal with the high temperatures where George lives. The U.S. market reflectors were removed to complete the restoration process.

The bike was delivered to George with the engine cleaned up a bit, but still pretty much in the shape it was in when the bike was found. George rode it around for a while, then decided it was time to work on the engine. Scottie Sharpe of Scottie’s Workshop (blog.scottiesharpe.com) in San Jose, California, went through the engine from the cases out to restore the 42 horsepower it had when it was new.

George likes riding his bike, not just in appreciation of its history, but because it is simply fun to ride. “Handling is stable

and the ride is smooth with the sprung saddle. Braking is reliable but limited as compared to sport bikes with triple discs. The front brake is twin-leading-shoe, and it can be set up to work well.”

“The transmission can be a bit alarming as the shifts are ‘positive’ to be kind. Think ‘KLUNK!’ If you are accustomed to it, you don’t give it a second thought. There is plenty of power available to ride all day with your friends on their Chiefs, Knuckleheads, Shovels and Scouts. You might be whiffing some blue smoke when in a pack of Bonneville, Commandos or Firebirds though. They perform like they are about 100 pounds lighter with the same horsepower.”

“The best part is that the materials are a high grade and the engineering is near aviation standards.”

Living with an R69US

“Maintenance is somewhat rewarding,” George continues. He has a background in aviation and an appreciation for high grade steel and precision machining. “These are not high-strung peaky bikes, they are robust. Adjustments don’t drift, carbs stay in sync, cleanup is easy with shaft drive, oil seams stay clean and tight. The

best part is that the materials are a high grade and the engineering is near aviation standards. I don’t recall ever shearing a bolt or rounding a bolt head or cross threading a screw. For the amateur wrench, that is an accomplishment!”

“I am attracted to the aesthetic of the bike. I like the approach to engineering BMW had at the time. It is rewarding to ride and returns many smiles per mile. Fit and finish are head and shoulders above contemporaries. The design was continually improved right up to the /5 introduction. Each subsequent iteration delivered more performance and greater utility. As a 1960s publication noted when I was in high school, the R series BMW was meant for the ‘ride a Rolex to lunch bunch.’ I had to look all that up but concluded that they were impressed with build quality, reliability and performance. I think they got it right.” **MC**

FUTURE MACHINE





1993 Yamaha GTS1000

Story by Greg Williams

Photos by Jeff Barger

There weren't many established design practices in the earliest days of the motorcycle.

In those nascent times, ingenious builders tried just about every form of power, from steam to internal combustion, from one cylinder to more than four. And, they experimented by placing those powerplants in many different positions, from over the front wheel to various locations on and around — and in — the bicycle frame itself.

Eventually, as the motorized bicycle morphed into an actual motorcycle, the layout became somewhat more familiar. Yet, engineers were still tinkering with details, from rudimentary suspension design to fuel tank position to final drive system. By the end of World War I, motorcycle design was more firmly established, yet engineers were still thinking outside the box. In 1918, for example, there was the hub-steered Ner-A-Car, the brainchild of Carl Neracher. A 221cc single-cylinder 2-stroke machine, the Ner-A-Car sold relatively well between 1921 and 1928.

More changes were still to come, including “saddle” style gas tanks, telescopic forks and the adoption of swingarm rear suspension. But, while at risk of over-generalizing the entire motorcycle industry, after all of that creativity, powered two-wheeler design settled into a fairly established pattern. Indeed, there were new materials and new manufacturing processes that helped tighten up tolerances and improve reliability, and certain “eras” of development further refined the motorcycle.

Changes

By the early 1990s, it could be argued that one of the more interesting motorcycle developments of the period occurred when Yamaha launched their production model GTS1000. Just ask Jim Balestrieri of Throttlestop motorcycle museum.

“I’m always looking for distinctive motorcycles for the museum,” Jim says of the Elkhart Lake, Wisconsin-based establishment he co-founded with his friend Tom Kostrivas. “And distinctive can mean a lot of different things, from the layout of the engine to manufacturing practices. And if I’m talking about the early 1900s, just about every motorcycle is distinctive due to the many engineering ideas that were being developed and tried.

“But if I’m talking about a motorcycle built in 1993, then a machine like the GTS1000 is distinctive for its chassis and front suspension and steering system. Why, in 1993, would Yamaha come out with this concept?”

To help answer that question, contemporary motorcycle press reports prove insightful. In an August 1992 issue of *Cycle World*, writer Matthew Miles says, “Yamaha’s long-awaited replacement for the aging FJ1200 is just around the corner.” The Yamaha FJ1200 was first introduced in 1984 as the FJ1100, and the 1200 was released in 1986. The machine was a sport-touring model, aimed squarely at those who appreciated riding long distances in relative comfort without sacrificing any of the athletic performance or handling characteristics of a fast motorcycle.

Yamaha wanted the replacement, referred to as the FJR1000 in the *Cycle World* article, to be a flagship for the company, and

The RADD forkless single-shock front suspension (far right).

“to be a true sport-touring successor. To that end, the highly advanced FJR1000 will also be expensive, perhaps even as high as \$15,000.”

By December 1992, *Cycle World* provided more details of the machine that by then had been renamed the GTS1000. A quick note on the name — depending on the market where the machine was sold, it is called the GTS1000A, and the A stands for ABS — but not every magazine referred to it by the full designation. In the U.S. and Canada, it was technically the GTS1000A, but in this story, it'll be referred to as the GTS1000.

“The centerpiece of the GTS1000 is its unconventionally steered and suspended front end, the first such design to go into production on a Japanese motorcycle. The concept was penned some 15 years ago and patented in 1985 by American inventor James Parker. Yamaha licensed the rights to the patent in 1990 and developed it for use on the GTS1000.”

James Parker was based in Santa Fe, New Mexico. He was the president of Rationally Advanced Design Development, or RADD



1993 YAMAHA GTS1000

Engine: 1,002cc DOHC, 4-stroke, liquid-cooled inline 4-cylinder, 75.5mm x 56mm bore and stroke, 10.8:1 compression ratio, 100hp @ 6,500rpm
Top speed (approx.): 139mph (224kmh)
Fueling: Electronic fuel injection
Transmission: 5-speed, O-ring chain final drive
Electrics: 12v, electronic ignition
Frame/wheelbase: Aluminum “Omega” chassis w/front and rear tubular-steel subframes, 58.9in (1,496mm) wheelbase
Suspension: RADD forkless single-shock front, single-shock rear swing arm
Brakes: Single 12.9in (328mm) disc brake front, single 11.1in (282mm) disc brake rear
Tires: 130/60 x 17in front, 170/60 x 17in rear
Weight (wet): 637lb (289kg)
Seat height: 31in (787.4mm)
Fuel capacity: 5.3gal (20ltr)
Price then/now: \$12,999/\$4,000-\$8,000



for short, and he came up with the concept. In the same December issue of *Cycle World*, writer Matthew Miles interviewed Parker and asked him about the genesis of the RADD front end.

Parker said, “During the late ’70s, I saw some of the European front-end designs, like the center-hub-steered Elf X. I thought those ideas were great, but when they didn’t succeed, I wondered why. So I analyzed them to see what their problems might be. In the process, I put together my own ideas. In 1983, I applied for a patent





and completed the first prototype in 1984. Fundamentally, the suspension has not changed since I conceived it."

The pair go on to discuss the benefits of Parker's design. He says, most importantly, front end strength is increased.

"Conventional forks act as a lever on the frame, multiplying the loads involved," he explains, and continues, "My system acts directly on the frame and therefore does not multiply the loads. There are also potential side benefits, some of which won't even be explored until engines are made specifically for this suspension. Steered mass is reduced considerably, so steering can be more precise. Secondly, since this is a pivoting system and not a sliding system, the ride should be better."

After developing the concept, Parker shopped his RADD front end around to different manufacturers and says it was Yamaha who expressed the most enthusiasm for his design — although, in producing the system, the company did not stamp RADD anywhere on the components. And that was fine with Parker, he left all decisions on how to approach that with Yamaha and respected their call.

Perhaps the most easily understandable description of Parker's RADD system appears in a December 1992 issue of *Rider* magazine. They

wrote, "As Parker's mission was to separate steering and suspension, the GTS1000 front end design — which adheres closely to Parker's original RADD concept — breaks down neatly into these two systems.

"Wheel location and suspension are handled by lower and upper arms, a shock absorber and a large cast upright on the left side of the wheel, mostly concealed by the front fender. The front wheel bolts to a stubby axle which rotates in tapered roller bearings in the bottom of the upright. Ball joints connect the upper and lower arms to the top and bottom of the upright, allowing it to pivot left-to-right and up-and-down on the ends of the arms."

Handlebars were connected to the upright through a steering box, and all of this was mounted to a unique frame structure — basically, two aluminum C-shaped plates, rotated forward, to which the engine and front and rear suspension were bolted. Yamaha called the frame the Omega chassis, and that's based on the fact the visible frame plates are similar in shape to the 24th and final letter of the Greek alphabet — Ω. Two steel subframes, one up front for the fairing and dash, and one out back for the seat and bodywork, attach to the aluminum plates.



The Omega chassis consists of two aluminum C-shaped plates.

The engine

To power the GTS1000, Yamaha used a detuned version of their double-overhead cam, 20-valve, liquid-cooled inline 4-cylinder FZR1000 engine with a 5-speed transmission, fitting it with milder cams and new electronic throttle-body fuel injection. With a bore and stroke of 75.5mm by 56mm, the 1,002cc engine — equipped with a catalytic converter — made a claimed 100 horsepower and 78 pound/feet of torque at 6,500rpm and was a stressed member of the Omega frame.

An O-ring chain provided final drive to a cast alloy 5-inch-by-17-inch rear wheel equipped with a 11.1-inch brake rotor squeezed by a twin-piston caliper. The rear suspension was nowhere near as complex as the front, with a conventional swingarm and shock from a FZR1000 mounted to the back half of the Omega frame plates. For a front brake, Yamaha chose to fit a large 12.6-inch ventilated disc to the 3.5-inch-by-17-inch cast alloy wheel working in conjunction with a 6-piston caliper. All GTS1000s that came to North America were equipped with Yamaha's antilock braking system.

Under the bodywork, a 5.3-gallon fuel tank was more upright in position, located high above the transmission towards the rear of the Omega frame. In the U.S., the GTS was finished in a metallic red color and could be equipped with optional hard luggage developed by Krauser. The price on the handlebar hangtag was a hefty \$12,999. In 1993, the GTS1000 was up against sport touring motorcycles such as the BMW K1100RS (\$14,676), Honda CBR1000F (\$7,699), Kawasaki ZX-11 (\$8,799) and the Suzuki Katana 1100 (\$7,929) — and even Yamaha's own, aging FJ1200A (\$8,999).

Yamaha might have had the first forkless production model with the GTS, but they weren't entirely alone in experimenting with front end design. Bimota, an Italian chassis maker, built and sold their hub-steered Tesi in 1992. At the time, the Ducati-powered Tesi sold fewer than 200 units.

Rider magazine named the GTS1000 their Bike of the Year in June 1993. In bestowing that title, they wrote, "Among the motorcycle technical



Weighing in at 637 pounds wet, the GTS1000 isn't a small bike, but it is a comfortable grand tourer.

innovations that weren't conceived merely to increase power, fuel injection, ABS, catalytic converters and forkless front ends are perhaps the most important to motorcycling's future. The Yamaha GTS1000 is the first to combine all four of these systems, not to mention some anti-theft technology, recyclable bodywork and the unique Omega chassis design. Judged by those features alone, we've never had it so easy picking our Bike of the Year award winner."

In a Long-Term update in *Cycle World*, after 837 miles aboard the GTS, the magazine declared the motorcycle was "quickly becoming a staff favorite. With its powerful anti-lock brakes, potent FZR1000-based engine and optional snap-on saddlebags (\$680) the GTS offers the performance and carrying capacity expected from a top-line top-dollar sport tourer."

Of the forkless front end, they said, "the RADD-designed front end remains wonderfully compliant, though steering effort is quite high. At triple-digit speeds, for example, the GTS is incredibly stable, but taking it through a series of 70-mph switchbacks requires considerable strength."

For all the hope and excitement surrounding the GTS1000, however, the motorcycle never caught on. In the U.S. for 1993, Yamaha sold fewer than 500 of them. Worldwide sales were not much better, according to a short story printed in the February 1994 issue of *Cycle World*. In *Brilliant but Unsold*, writer Jon F. Thompson said the GTS likely didn't do well due to "its complexity, its heavy look and feel, its price (the '94 bike lists for \$14,999) and its styling."

In America, Yamaha kept the GTS in showrooms for 1994. After that, the GTS disappeared from this market, but was sold, relatively unchanged, in other world markets through 1998. Since then, there has been no follow-up by Yamaha with similar RADD forkless technology.

A collector bike

As a passionate motorcycle collector, Jim Balestrieri routinely works with other collectors who occasion-



ally thin out their motorcycles — such as John Coe of Michigan. A few years ago, Jim bought some machines from John, including ultra-low-mile examples of a 1967 BSA Spitfire, a 1969 BSA Lightning and a 1969 Triumph T120R.

When Jim learned that John also had a 1993 GTS1000 for sale, he didn't hesitate to add it to the roster of machines at the Throttlestop Museum. John had originally purchased the GTS1000 brand-new at K&W Cycle of Shelby Township, Michigan, and is reported to have been intrigued by the unorthodox suspension and found the bike very interesting. John rode it for a few years, adding only 4,800 miles to the odometer before he decided to park it.

"We got the bike in November 2017," Jim says. "It came to us dry, and without a battery. For now, the machine hasn't been run, and it will likely stay that way."

On the road

To learn more about long-term ownership of a 1993 Yamaha GTS1000, Gary Foursha of Calgary, Alberta, provided his input. Gary originally read the GTS1000 article in the December 1992 *Cycle World* referenced earlier and was immediately interested, but couldn't afford the price tag. He had to wait until 2004 when he could buy a used GTS1000 with 20,000 kilometres (12,427 miles) on the odometer.

"At that time, it was like finding a long-lost love, and reality exceeded my expectations," Gary says. "It took me about six

months to get really confident with the bike.

"It's got an excellent fairing; there's certainly no wind up your skirt," he continues. "With the front suspension and the engine mounted the way that they are the bike has a very low center of gravity. There's no heavy triple tree up high, and the handlebars sit atop a splined shaft — it's very direct steering, there's no mushiness in there at all."

With the anti-dive properties of the front end, Foursha is adamant that he can apply the brakes while deep into a corner without interrupting the steering. "You can't do that on a normal motorcycle," he says. "And, you have to steer it out of a corner, it doesn't straighten up on its own." Gary has added 5,000 kilometers (3,100 miles) of his own to the Yamaha in 15 years and says maintenance, upkeep and general functions are pretty much the same as every other late-model motorcycle in his stable. He adds that part numbers are still retrievable at dealerships and OEM parts are available.

Of the Throttlestop Museum's GTS1000, Jim says, "It's in impeccable condition, and we didn't have to do anything to it — it's a beautiful piece of engineering. It's quirky and extreme, and I'm surmising here, but I think the GTS might have been a Yamaha branding exercise meant to inspire both the public and its own staff.

"Who wants to work for a company that doesn't push the limits?" **MC**



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Alan Cathcart aboard the
new Norton Atlas Nomad.



TWIN TWINS

2020 Norton Atlas 650 Nomad and Ranger Road Test

Story by Alan Cathcart
Photos by Kel Edge

Norton's decade-long ride down the comeback trail under the ownership of Stuart Garner is now reaching fruition.

As you read this, production has commenced of the historic British marque's twin Twins — its 650cc parallel-twin Atlas range. Launched at the Birmingham NEC Show almost a year ago, they will initially be available in Nomad and Ranger street scrambler versions, one (Ranger) more decidedly dual purpose

The new Norton Atlas Ranger in front of Donington Hall.



than the other. These two all-new motorcycles presage what Garner promises will be a constantly expanding range of entry-level models in the Norton range — all without in any way impacting on the company's current air/oil-cooled Commando 961 retro twin, which continues in production in Euro 4 compliant form — alongside its 1200 V4 Superbike family which entered production one year ago. Pricing is at the upper end of the middleweight market, with the Nomad retailing at £9,995 OTR (on the road) including 20% British tax, and the Ranger at £11,995, compared to the Kawasaki Versys 650GT at £8,649 (\$9,199 in the U.S.). [At time of printing, U.S. prices and launch dates for the Norton 650s have not been announced as the bikes are undergoing emissions processes, but "early 2020" is hoped for. — Ed.]

Indeed, the Atlas duo are a direct spinoff from those 1200 V4 models, with the liquid-cooled 8-valve DOHC parallel-twin wet-sump engine common to both versions. The engine essentially represents the front cylinder bank of the 72-degree V4 engine, with the same chain camshaft drive up the left side of the Atlas engine, which is fitted with a 270-degree crank. This has been stroked slightly to obtain a full 650cc, so that instead of the V4's 82mm x 56.8mm format, the Atlas engine now measures 82mm x 61.5mm. In this guise it delivers the same 84 horsepower at 11,000rpm at the crank (vs. 64 horsepower on

the Versys) on each model, with 47lb/ft of torque (45lb/ft on the Kawasaki) peaking at 9,000rpm, running 11:1 compression. Norton uses a dedicated engine management system from Mechtronic on these two Twins, the same supplier as on the V4, with twin 48mm Jenvey throttle bodies, each with

a single Bosch injector (compared to two on the V4) and a ride-by-wire digital throttle, but as yet no choice of different riding modes. The 6-speed extractable cassette-type gearbox with straight-cut primary gears uses the same ratios as the V4, with a cable operated oil-bath clutch, and a single gear-driven counterbalancer to eliminate undue vibration, which it indeed does.

This extremely compact engine was developed entirely in-house at Norton, according to the company's head of design, Simon Skinner — but its commercial manufacture is linked to a deal which Norton made almost at the start of the project to supply Chinese giant Zongshen with a 650cc twin-cylinder engine design for volume manufacture on its production lines in China. As part of that, Zongshen will be supplying certain key parts to Norton with which it can manufacture its own more powerful version of the engine, including the horizontally split crankcases, the 8-valve DOHC cylinder head and both crankshaft and camshafts, leaving Norton to source the other parts necessary to build the engine in the U.K. Essentially, this

NORTON ATLAS 650 NOMAD (RANGER)

Engine: 649.57cc liquid-cooled DOHC 4-stroke parallel-twin, 4 valves per cylinder, 270-degree crankshaft, 82mm x 61.5mm bore and stroke, 11.5:1 compression ratio, 84hp @ 11,000rpm (at crankshaft)

Top speed: 125mph-plus

Fueling: Two 48mm Jenvey throttle bodies, each with a single Bosch injector

Transmission: 6-speed

Electrics: 12v, electronic ignition

Frame/wheelbase: Twin tube seamless steel perimeter frame/engine as a stressed member/57in/1,446mm (57.9in/1,470mm)

Suspension: Fully adjustable 50mm Marzocchi Roadholder inverted telescopic fork with 150mm wheel travel (200mm) front, Marzocchi-made Roadholder monoshock and rising rate link with 150mm wheel travel (200mm)

Brakes: Dual 320mm Brembo fully floating stainless steel discs with radially mounted 4-piston twin-pad Brembo Monoblock calipers with Continental ABS front, single 245mm Brembo steel disc with 2-piston Brembo caliper with Continental ABS rear

Tires: 110/80 x 18in Avon Trailrider (120/70 x 19in Avon Trekriders) front, 180/55 x 17in Avon Trailrider (170/60 x 17in Avon Trekriders) rear

Weight: 392lb/178kg

Seat height: 32.4in/824mm (34.1in/867mm)

Fuel capacity: 4gal/15ltr

More info: nortonmotorcycles.com

means that Norton has found a dependable Asian supplier of key parts at affordable prices, without having to copy its near neighbor Triumph in establishing its own factory in Thailand or elsewhere to achieve this.

“Zongshen approached us late in 2016 after we’d taken the V4 engine design back in-house [from R&D firm Ricardo — AC], and soon after we’d begun work on drawing up the Twin,” Skinner says. “They’d read about our plans for such a bike in a magazine article, and knocked on our door to see if we’d be interested in working together on the engine, which we were. It’s exactly the same motor, except ours is branded a Norton, theirs is branded a Zongshen in their home country — but it’s exactly the same motor, though theirs will have a lower state of tune in keeping with their target customers’ needs. It’s been engineered and developed by us, tooled by them, and will be assembled by both firms in their respective countries. Obviously our overriding mantra is the quality of the parts we receive from them, but when you look at the size of the Zongshen business, where they make 14,000 engines a day, if they have a quality issue which they only find out about after two weeks of production, the recall costs would be immense. So their control over the quality of their tooling and components is the best I’ve yet seen in any manufacturer, and they’ve made a massive investment in the latest world-class machine tools. The company is immense — literally, raw materials come in one end of the factory, and motorcycles



The Atlas Ranger sports a small windscreen (left) along with a high “beak” front fender (bottom). The 50mm Marzocchi-made upside-down fork, branded as a Roadholder, gives 7.9 inches of travel on the Ranger.

come out the other — they make everything themselves. They have machine shops so large it practically shows the curvature of the Earth, and they have their own foundries etc. — everything’s made in-house. Last year they built 4.5 million engines and 2.5 million complete motorcycles, so it’s a huge business that it’s good to partner with.”

Norton owner/CEO Stuart Garner concurs: “Once we started talking with Zongshen we found that none of the bigger Western manufacturers would work with them, because they’d see that as helping a competitor. Yet Norton can do so since they’re a small-capacity engine/mass-market manufacturer, and we’re a large-capacity engine/niche-market company. So we’re very happy to work with them, and vice versa, and working with us was a perfect way for them to develop a premium engine at the high end of their range. We’ve negotiated a non-brand deal only for engineering — so they have no rights to use the Norton name — under which we’ve given them certain design rights over our 650 engine, with engineering support from Norton under which our engineers have been going to China to help them get that engine into a new generation of Zongshen models. So it’s a deal which works really well for Norton, and all the money we earn from it gets reinvested back into the Norton brand here in Britain.” The several manufacturers in Italy and elsewhere such as Fantic Motor and FB-Mondial which already purchase Zongshen single-cylinder engines to equip their range of bikes, are eagerly awaiting the chance



The Atlas Nomad sports the same gauges, but no fly screen (left). The Nomad also features a more conventional, although short, front fender (right).

to buy Chinese-manufactured versions of the Norton 650 engine for their forthcoming range-topping twin-cylinder models — though Stuart Garner insists that under his agreement with Zongshen, Norton has the right to veto supplies to any third party manufacturer it considers to be a direct rival,

The Atlas duo's U.K.-developed engine is fitted in a tubular steel perimeter chassis — again, entirely designed but also manufactured at Norton — with the engine as a semi-stressed component, and an aluminum swingarm mount on either side. A fully adjustable 50mm Marzocchi-made upside-down fork branded as a Roadholder (the name given 60 years ago to the suspension on Norton's legendary Manx GP racer and its street bike spinoffs) sits at a 24.5-degree rake on both models, but the Ranger has 7.9 inches of wheel travel against the Nomad's shorter 5.9-inch range. Same at the rear, where the braced cast aluminum swingarm operating a Marzocchi monoshock adjustable for rebound damping and spring preload (but only with a C-spanner) via a rising-rate link, gives 5.9 inches of wheel travel for the Nomad, and 7.9 inches for the Ranger.

Despite its dual-purpose focus, the Ranger carries the same front brake package as the Nomad, which wouldn't look out of place on a one-liter Superbike. The twin 12.6-inch Brembo fully floating front discs are gripped by the Italian firm's 4-piston twin-pad radial Monoblock calipers, though



the switchable dual-channel Continental ABS will help riders who get too enthusiastic with their right fingers stay out of trouble. At the rear there's a 9.6-inch disc with a twin-piston Brembo caliper, altogether stopping a bike that weighs 392 pounds dry in either guise, according to Skinner (against 398 pounds on the Versys), split 50/50 front to rear. Both bikes use a 17-inch rim on their rear wire wheels, with a front 19-inch-er on the Ranger shod with Avon's new Trekriders dual-purpose rubber, whereas the more tarmac-focused Nomad uses the firm's slightly less knobby Trailrider tires, with an 18-inch front. This results in a 57-inch wheelbase for the Nomad, versus a rangier 57.9-inch stride for the, er, Ranger

... As on the eye-grabbing V4-SS, the styling of both Atlas models was designed by Simon Skinner himself in his home design studio. This actually transpires to be in a rather humdrum location: "It was done at home where I'm undisturbed, and I get fed coffee by my wife, straight onto CAD on my laptop on my kitchen table!" he says. "What I wanted to do was to not make a retro bike, but to not make an ultra-modern one, either — I wanted to bring in an older generation without alienating younger people. Still, I think anyone who knows Nortons really well from back in the Sixties/Seventies will recognize some of the shapes on the bike, particularly around the fuel tank. But the styling is essentially based around the ergonomics, and the function-





ality — for example, the very low 4-gallon fuel tank allows you to stand up on the bike easily if you're going offroad. We have several more variants on this platform already planned, but first we have to get these first two up and running in production." Norton claims "several hundred" orders are already under deposit for the two bikes, with a 70/30-percent split in favor of the more road-focused Nomad.

The chance for a first ride on pre-production prototype versions of both the Norton twin Twins came on a glorious autumn day in the Derbyshire countryside north of Norton's 228-year old stately home HQ, Donington Hall. That's where the original 45,000-square-foot factory and 10,000-square-foot welding and fabrication shop is nestled in the middle of an 80-acre estate in the heart of England, and another 12,000-square-feet of covered space has been added to accommodate volume production of the range of Twins. Starting with the Atlas Nomad, I was immediately thrilled by the fruity-sounding aftermarket exhaust fitted to the bike, which probably won't be Euro 4 legal. Still, it was no louder than a Triumph aftermarket pipe on one of its midsize triples, but has exactly the same effect, delivering a sporty feel-good factor to riding the bike.

That's a sentiment enhanced by the engine's performance, thanks to the way that Skinner & Co. have tuned it. This is a switch-hitter of an engine, with a very welcome split personality. Below 6,000rpm it's an amiable all-rounder of a bike, happy to plonk along at low speeds in third or fourth gear in traffic or through towns and villages. The accommodating suspension's generous, well-damped travel delivered good ride quality over the increasingly prevalent lumps and bumps of Her Majesty's highways. But then show either Norton an open stretch of road and wind up the revs, and from six grand up to the 11,000rpm revlimiter it is un-be-liev-ably quick-accelerating, with the ultra-flat torque curve that fast-forwards you towards

the horizon. Each Norton's contained weight doesn't hurt, but it's the fact that they're much more powerful than any of their mainstream 650cc competitors from Kawasaki or Suzuki, which makes them so much fun to ride. Aprilia's forthcoming RS660 will probably be targeted at the Nortons, but the British bikes are here and now and about to start production, whereas the Italian twin is still a work in progress. From 8,000rpm especially there's an extra hit of performance from the Norton engine, which propels you even harder towards that horizon. These are very invigorating bikes to ride, and the single counterbalancer does its job well — there are no undue vibes at any stage in the revband, despite the engine being rigidly mounted in the frame.

"Norton claims 'several hundred' orders are already under deposit for the two bikes."

I was glad to discover that the Nomad's handling was capable of harnessing this performance — I was about to write "slightly unexpected" but this is after all one-half of a 200-plus-horsepower Hypersports engine, so it stands to reason it should deliver thrills, but without spills. I think what

made it unexpected was the sight of an 18-inch front wheel and Avon's Trekrider dual-purpose rubber on the bike — but although this was the first time I'd ridden a bike with these tires, I was pretty impressed by their level of grip. They delivered sufficient lean angle to scrape the Nomad's low-mounted dual-purpose footrests quite badly, to the point that I really do think they need to be raised. In fact, the Nomad's a bike with a split personality that's a little incongruous. It's really an Atlas café racer both in styling and capability, much more than a putative offroader — making it really neither one thing nor the other. I'd like to raise the footrests and stick full-tarmac tires like Pirelli Angels on it, maybe with a 17-inch front wheel — though the 18-incher fitted doesn't slow the steering down unduly. But full respect for those outstanding brakes, with the Continental ABS which cut in occasionally but not over-eagerly

Alan Cathcart riding the Norton Atlas Ranger.



on strewn leaves in country lanes. Like I said, this motorcycle would make a pretty fine café racer, and doubtless Norton will produce one soon based on the Atlas platform, especially with the Nomad's 32.4-inch seat height being ideal for such a bike.

Riding the Ranger confirmed this — if you want to go offroad but to ride tarmac to get there, or to go to work to earn the money to buy the bike in the first place, this is an excellent model to do so on. The Ranger's taller 34-inch seat still allowed me at 5 feet 10 inches in stature to touch both feet down at traffic lights, but coupled with the 19-inch front wheel made it a confidence-inspiring trail ride along hard-surfaced lanes and muddy tracks. The low-speed rideability of the engine again came to the fore — but just like the Nomad, show it an open road, and the Ranger speeds along very nicely, with just the upright riding position to contend with in terms of windblast. Still, 75mph cruising was lots of fun, and this is a true all-around motorcycle with added reserves of power when you want. And the good-looking seat on both bikes was pretty comfy, too.

One thing I must especially compliment Skinner and his men on is the Atlas gearbox, which is literally faultless. The shift action is short, precise and instant: it is so effective that you don't even need to use the clutch changing down through the gears — not that using its light-action lever is any hardship, making both Atlas twins ideal town bikes, especially the Ranger where you sit high enough to see over traffic quite easily. But the choice of ratios from the V4 is also inspired — the top four in the 6-speed gearbox are quite close together,

allowing you to really keep the engine on the boil if you're revving it out. But down low it's sufficiently flexible that you can pull away in sixth gear from as low as 2,000rpm, or about 30mph, without any real transmission snatch, making this a flexible friend of an engine — but with performance on tap when required. "We got a little bit of criticism for our gearbox in the Commando 961," Skinner says, "so we've very much taken that on board, and worked super hard to make that shift action really slick, both up and down the 'box.'" Mission accomplished, I'd say.

A combination of British design skills and Chinese manufacturing expertise at the right price augurs well for the long-term future of the Norton brand. In fact, this new family of Twins already made a promising debut in the rain-hit 2019 Isle of Man TT's Lightweight race for 650 Twins, when Peter Hickman raced a brand-new street-legal Superlight version of the marque's all-new twin-cylinder family, with a more powerful 102 horsepower twin-injector version of the same parallel-twin engine in the Atlas duo. Despite the bike never having turned a wheel under its own power in coming straight from the Norton assembly line to the 37.73-mile track, within four laps Hickman had lapped just 16 seconds slower than the class lap record. He went on to finish eighth in the race after some minor problems, after lapping at over 120mph on a bike he'd never ridden before. That's how good a package Skinner and his team have masterminded in this new family of bikes, and it's going to be very interesting seeing what other variants with a 100% tarmac focus they come up with next. **MC**

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FROM ERITREA TO TENNESSEE



Restoring a pair of Moto Guzzis

Story by Bud McIntire
Photos by Bostelman Photography

Sometimes the stories behind vintage motorcycles are as interesting and compelling as the bikes themselves. This is one of those times.

The persistence and talents of one man have resurrected not one, but two discarded, forlorn prewar Moto Guzzis found in a distant corner of the world. This epic began in 1968 when a 20-year-old Army-enlisted man from Tennessee named Spencer Graves was assigned to duty in Asmara, Eritrea. Eritrea became an Italian colony in 1889 and, under the hand of dictator Benito Mussolini, the capital of Asmara was greatly expanded beginning in the early 1920s. With over half of the capital's 98,000 residents

being native-born Italians, there were of course many Italian products, including motorcycles, as we shall see.

Early in his deployment, Spencer found a 1939 Moto Guzzi 500 GTS in sad condition, not running with many missing and cannibalized parts, following nearly 30 years of neglect. Shortly after acquiring the Guzzi, a fellow soldier sold him the sidecar off of his Triumph 650, which Spencer thought would fit his bike. Little did he know how fateful this purchase was. He found a native Eritrean who was knowledgeable about older Guzzis and who agreed to return it to running and presentable condition. The mechanic's name was Solomon Mashio, and he was not only the first native African to be a certified Moto Guzzi mechanic, but also a Guzzi racer of some repute. Solomon was trained and mentored by the noted Italian Moto Guzzi mechanic and racer Mario Mancini in the early 1950s. When Spencer picked the bike up from Solomon, it ran well enough, but evidently



STONES RIVER GARAGE

CANNONSBURGH, TN.

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“presentable” to Solomon was a bit different than what Spencer had in mind: the bike was painted in the traditional Guzzi bright red, but the sidecar was painted like a zebra!

Having seen Spencer dashing around on his old Guzzi, Al Willey, a fellow soldier and friend, decided he had to find one as well, which he did. It was an even older example of the same 500 GTS, circa 1934, in much the same condition as Spencer’s. Al’s goal was to ship the bike home and restore it. Al’s daily ride was a Ducati 250 Scrambler. Imagine two young soldiers far from home, one on the prewar Guzzi and the other on a period Ducati dashing around the dusty roads of Aswara, the nearby port city of Massawa and the surrounding desert. They must have felt like modern-day Lawrences of Arabia! When their tours of duty were up, the two buddies shipped the bikes back to the U.S. and eventually restored them. Spencer’s Guzzi went home to Tennessee and his buddy Al’s bike to Wyoming, now with the sidecar which Spencer sold him just before leaving Africa. It would return, as we will see.

Restoration

Spencer began working on his Moto Guzzi in 1974, disassembling the bike for body and paint work only to have the

gas tank and side covers disappear from a ne’er-do-well local shop. The project was off to a poor start. Through persistent inquiries, Spencer located Jerry Kimberlin in California, who was very knowledgeable about the Guzzi singles and a skilled engine builder. Jerry undertook the rebuilding of the engine.

As this was going on, Spencer was searching for the parts lost by the body shop, as well as many others needed to complete the project. Along the way fellow U.S. Guzzi enthusiasts Tim Smith and Antonio Ricciardi helped with parts and advice, as did Marco Valentino in Italy. To give you an idea of the difficulties, it took 16 years (1974-1990) to find a correct, original gas tank to replace the one lost at the start of the project. Other parts were nearly as challenging to find, as was information about the bike itself. Don’t forget that these initial efforts were done before the internet, so snail mail, phone calls and word-of-mouth were the only means available, all of which took much time and diligence.

In addition to the difficulties in sourcing parts, etc., it’s also important to note that Spencer was not a mechanic, not a paint-and-body guy, not knowledgeable about prewar Guzzis GTSs, of which only 2,952 were built, and did not know anyone who was. He also didn’t speak Italian. However, he was persistent, focused and found that he had fundamental skills which developed into





The 1934 Moto Guzzi GTS 500.

fine craftsmanship.

He admits to lots of mistakes and do-overs, but he kept at it over the years and, as seen in the photos and the many show awards, he got it very right. He first displayed the 1939 model at the Barber Vintage Festival in 2011 as a solo bike and received high praise for his efforts.

The second GTS

In 1990, Spencer's Army buddy called from Wyoming and asked if he'd like to buy the 1934 500 GTS he'd bought in Eritrea, as he'd decided that he just didn't want to take the project on. Now that Spencer had many years of experience working on his bike and had developed sources for parts and advice, he readily accepted the offer, so now he had two vintage Guzzis. He wisely waited until he finished his bike in 2011 before starting on his friend's bike which, as you'll recall, had the sidecar that Spencer sold him in Africa.

Spencer knew that the body on the sidecar was not correct, but the frame fit the Guzzi so well that he thought there was a chance that it may have been an Italian rig originally made for the bike. Perhaps, but the chances were very slim, as he knew. Still ...

Although there were no markings on the sidecar frame, after much searching on the internet, Spencer located a sidecar museum in Italy (www.sidecar.it), which not only had many different sidecars on display, but also had a restoration shop and original tooling for several classic Italian sidecars. The founder, Constantino Frontalini, carefully studied the photos Spencer sent and recognized the frame as a period-correct, Italian Parri S.M.I.T unit! So, fate stepped in and proved Spencer's intuition correct despite

the very long odds. The next question was whether original Parri sidecar bodies were available? The disappointing response was "no."

But in the next breath Constantino said "but we can build a new one for you from the original bucks and tooling!" What are the chances of finding THE one person on the planet who could recognize the bare frame and who could then build a new, period-correct body for it? So a deal was struck and eight months later the sidecar body arrived in primer at Spencer's doorstep in Tennessee.



Spencer Graves' 1939 Moto Guzzi GTS 500, with a Parri sidecar.



In the meantime, he'd continued on with the restoration of his friend's GTS. Then began the painstaking process of filling, sanding, blocking the new body, matching the new paint to the complex, two-tone scheme shown on original Parri advertising literature and getting the whole assembly brought together into the extraordinary, award-winning rig you see in the photos. He decided to attach the sidecar to his 1939 GTS, since that was the bike on which it was originally mounted. In 2016, after 42 years of diligent and skillful effort, both of Spencer's 80-plus-year-old Guzzis from the other side of the world were completed. They were both displayed at the Barber Vintage Festival that year and again in 2018, to much-deserved praise and awards. Listening to comments by onlookers at these shows, it's safe to say that the art deco design of the Parri sidecar is unlike any other in the world (with the pos-



The 1939 GTS 500 still wears its U.S. forces tag from Ethiopia (left).

sible exception of the other famous Italian sidecar company, Longhi), and is just stunning when seen in person. The soft, streamlined lines of the Parri and the intricate detailing are simply unmatched.

It is notable and speaks to Spencer's character that, even given the obvious quality of the work and the many awards, he is humble about what he's accomplished and wonders aloud if it is "good enough." The best answer is a simple "job very well done." No doubt Carlo Guzzi would say the same thing, shake his hand, pat the gas tank and murmur "bella macchina" over and over.

These bikes are not trailer queens meant to just garner awards. Spencer pilots the sidecar rig regularly, although he doesn't ride the solo bike as much these days. He

has been generous in showing the bikes at many venues large and small, famous and not-so-much since completing the restorations. It is nothing short of a miracle and a fine example of one man's persistence that these two bikes have been restored to their former glory for future generations to appreciate.

Technical info

With their exposed hairspring valve springs, the iconic Moto Guzzi "bacon slicer" flywheel, rear friction dampers, handsome alloy engine castings, fishtail exhausts, intricate instruments and controls, both of these Guzzis are mechanical feasts for the eyes and ears.

Sporting a low 4.6:1 compression ratio with a modest 13.2 horsepower moving 323 pounds (solo bike), acceleration is leisurely. With a 4-speed gearbox, a comfortable cruising speed of 50mph and a maximum speed of 65mph, power was certainly sufficient, especially considering the small drum brakes, not to mention the poor road conditions of the day.



Finished in 2011, the 1939 GTS 500 is ridden regularly.



While the frame for the Parri sidecar is original, the body was built from the original bucks and tooling.

Moto Guzzi built several models of the 500 GT series between 1934 and 1949, with the GTS being the less sophisticated, lower-powered model, but it was also less expensive to buy and maintain and was very robust. The higher-performance 500 GTV model produced 18 horsepower with a 5.5:1 compression ratio and an overhead valve/pushrod system, although it weighed slightly more at 352 pounds. Both series were available with either a rigid or a friction-type rear suspension and both had a springer-type front suspension.

It is important in Guzzi history that the prewar 500 GT series

motorcycles not only helped establish the company as a builder of fine, high-quality bikes, but they were also the basis for Guzzi's reemergence following World War II. The 500 GT models were also the basis for the later and more famous Falcone model, which came to market in 1950, as well as the successful Dondolino racing bikes.

Guzzi carried on with the horizontal single-cylinder bikes in 500cc and 250cc displacements until 1967, at which time the famous V-twin engine we see in today's Guzzis came to market. But that's a story for another time. **MC**



Spencer Graves (right) with his 1934 GTS 500. Spencer's son Russell Graves (left) and grandson Conner with the 1939 GTS 500.

1972 YAMAHA R5 350

Bridging the gap between road and track

Story and photos by Dain Gingerelli

By the late 1960s Yamaha's production racers, the TD (250cc) and TR (350cc) were enjoying unparalleled success on racetracks around the world. But the racers' street bike counterparts — Yamaha's bread and butter consumer products — were showing their age.

Compared to other contemporary middleweight models on the market, bikes like Honda's CB350 and Kawasaki's Avenger A7 350, Yamaha's DS6 (250cc) and R3 (350cc) models relied on 10-year-old technology to lure customers into dealer showrooms. No surprise, sales began to lag.

That was about to change in 1970 with the launch of two all-new models — the DS7 (250) and R5 (350). Beyond engine displacement, these new models were joined at the hip in many ways, sharing similar and updated platforms.

But when Yamaha Motor Corporation released those two models (the R5 in particular) the folks at headquarters in Hamamatsu, Japan, had no idea that the new roadsters — both powered by all-new air-cooled twin-cylinder 2-stroke engines — would have a lasting impact on amateur road racing in America. And the R5, in particular, did exactly that.

The R5's engine, like the DS7's, had horizontally split cases, a welcomed improvement over the R3's vertically split lower-end cases. The top end was a new design, too, meant to deliver a wider power band than the R3's. Wrote *Cycle Guide's* editors for their January 1971 issue, "The new 350's power spread is a good deal broader and as a result, the rider doesn't spend nearly as much time shifting gears as he used to [with the R3]."

That was fine and dandy for the street crowd, but road racers weren't concerned whether or not their race engines had broad power bands. Then as now they wanted horsepower any way they could get it. And lots of it, but in 1970 Yamaha claimed the same basic peak horsepower figures for the R5 as with the R3 — 36 horsepower for either model. So why, then, did the street-going R5 create such a stir among amateur road racers in America?

Because the R5 was a complete and balanced package; power delivery, braking prowess, and ride and handling meshed to create a bike that shined not only on the highways and byways of America, but on racetracks, too, where amateur club racers easily prepped their R5s for production-class road racing.







1972 YAMAHA R5 350

Engine: 347cc air-cooled 2-stroke parallel twin, 64mm x 54mm bore and stroke, 7.5:1 compression ratio, 36hp @ 7,000rpm (claimed, 1970 model)

Top speed: 100mph (claimed), 95.31mph (period test, 1970 model)

Carburetion: Two Mikuni VMSC 28mm

Transmission: 5-speed constant-mesh, left-foot shift, chain final drive

Electrics: 12v, AC generator, ignition points

Frame/wheelbase: Tubular double cradle frame/52.8in (1,341mm)

Suspension: Telescopic forks front, dual coil-over shocks rear

Brakes: 7.2in (183mm) TLS drum front, 7.2in (183mm) drum rear

Tires: 3 x 18in front, 3.5 x 18in rear

Weight (dry): 326lb (148kg)

Fuel capacity/MPG: 3.2 gal (12.1ltr)/34mpg (period test, 1970)



And they did so with success, typically beating the other brands that vied for 350cc class dominance at the time. Southern California club racers, especially, filled their display cabinets with cheap trophies won racing their R5s. Young racers like Mike Devlin, Dick Fuller, Bob Crossman, John Lassak and Alan Gingerelli, to name a few, rode R5s to success during the early and mid 1970s.

Shorter stroke, reduced piston speed

New cylinder bore and stroke specs, coupled with reconfigured intake and transfer ports, accounted for most of that engine improvement. Gone was the R3's 61mm x 59.6mm long-stroke cylinders in favor of the R5's 64mm x 54mm jugs that equated to less piston speed at any given rpm. The wider bore offered increased piston-port area, and the addition of a fifth,

or boost, port helped further direct the fuel charge centrally to the combustion area for more efficient ignition. The sum total helped expand the engine's powerband without sacrificing peak horsepower. And the savvy production-class racers who understood 2-stroke tuning altered their engines' port timing to gain even more power, but that's a story for another time.

For now, know that the R5's refined engine was cradled in a frame boasting its own road racing heritage. Based on the fabled Featherbed design that Norton perfected years before, the R5's double-cradle frame took its DNA from Yamaha's first-ever successful Grand Prix road racer, the RD56 that debuted on European race-tracks in 1963. The following year Englishman Phil Read joined the factory team to race his RD56 to Yamaha's first-ever Grand Prix World Championship. Little did Read know at the time that





he, along with the entire factory team effort, was helping lay the groundwork for future TD and TR privateer race models as well as the R5 street bike that was to come six years later.

"Going around corners," wrote *Cycle Guide's* editors about the R5, "the chassis is absolutely rock steady. So much so, that the rider gets a distinct impression that the wheels are running in a slot," also citing that the swingarm pivot area had been "greatly beefed up," further accounting for that rock-steady handling.

Cycle World, buoyed by editor Ivan Wager's road race experience, was more succinct in its praise for the R5's chassis. "This

capable frame design," they wrote in the June 1970 issue, "is the direct result of knowledge gained from racing, with the benefit passed on to the consumer. Rigidity is one of the R5's virtues."

Interestingly, *Cycle's* editors were less impressed with the R5's handling, stating in the December 1970 issue's 350cc middle-weight shootout (pitting the R5, Avenger, CB350, Bridgestone GTR 350, Suzuki T350, and the thoroughly outgunned Harley-Davidson Sprint SS 350 against one another) that the "front forks continued to oscillate through some of Lime Rock's [Raceway] turns." Soon enough, though, amateur road



The 347cc air-cooled 2-stroke parallel twin makes 36 horsepower at 7,000rpm, good for a top speed of about 95mph.

racers discovered that by replacing stock fork oil with a slightly heavier aftermarket mixture, and by replacing the stock rear shock absorbers with aftermarket suspenders from companies like Koni or S&W Engineered Products, along with fresh Dunlop K81 tires front and rear, the R5 rewarded its rider with world-class handling on the racetrack, thank you. Much like Read's RD56 must have performed in 1964.

Whoa, Nellie!

Other than what was on Honda's CB750, motorcycle disc brakes in 1970 were pretty much a thing of the future; most consumer bikes at the time were equipped with cable-operated expanding-shoe drum brakes for whoa-ing and slowing. Yamaha's R5 was no different, relying on 7.2-inch-diameter drum brakes front (double-leading shoes) and rear (single-leading). *Cycle World* praised the R5's brakes in its June 1970 issue, stating, "The R5's smooth, progressive, grab-free [brakes] show only a slight tendency to fade under repeated use."

Meanwhile at *Cycle Guide* the editors wrote: "The braking department was kind of ho-hum ... it never felt as though there was a surplus of stopping power."

And *Cycle*'s Jess Thomas wrote, "I had to pull extremely hard on the Yamaha brake, but the feeling of control was reassuring. The cable required adjusting a lot after the first stop, but sensitivity remained good. The stops were all straight, with no tendency to swerve or lock suddenly." There you have it, three magazines, three different opinions, but we can check back with the racers at the track to see that, even with the coming of the RD350 and its front disc brake by 1973, some of the stubborn Southern California club racers stuck with their R5's front drum brakes, and were rewarded with considerable success.



At just 326 pounds dry, the R5 was a fairly light motorcycle for its day. Thad Wolff riding his Yamaha R5 (facing page).

Three-year run

Indeed, ultimately it was the RD350 that helped put the R5 out to pasture. A 6-speed transmission, reed-valve cylinders for improved low-end response and that trusty (yet heavier) front disc brake combined for a much better and congenial street bike — and racer. One thing that didn't change, however, was the snappy handling because like the R5, the RD350's potent little engine was straddled by one of the best frames on the market at the time.

And it was the R5/RD350's road race prowess that helped a wide-eyed teenager from Thousand Oaks, California, change his allegiance from motocross to road racing in 1977. Thad Wolff was a 17-year-old motocross racer when his friend and racing cohort, Bryan Cathey, read a *Cycle* magazine article about another young SoCal racer, Scott Clough, competing and winning at local road race tracks aboard his RD350. "We can do that," Cathey suggested.

Before he knew it, Wolff found himself standing in *Cycle* magazine's front lobby, which happened to have its editorial offices just a stone's throw from Wolff's home. That also happened shortly after editor Cook Neilson won the 1977 Daytona Superbike race.

"I'm not sure what I was thinking," recalls a more mature and worldly Thad Wolff today. "I asked to see Cook," he continues, "and guess what? He actually came out, introduced himself, and then invited me to his office." A brief Q&A session followed, prompting the ever-so-patient Neilson to halt their discussion while he reached into his desk's bottom drawer, reappearing with an AFM (American Federation of



Motorcyclists, the leading amateur road racing club in the country at the time) rule book. He tossed the book, no doubt its cover marred with greasy fingerprints and the pages inside dog-eared and highlighted for quick reference, into Wolff's surprised hands.



"Here," began the Daytona Superbike winner, "read this." He added sternly, "And be sure to wire the engine's drain plug."

"He told me more than once to do that [wire the drain plug]," Wolff recalls. "He probably didn't want me to be the guy whose drain plug popped out and oiled the track right in front of him."

Wolff read that rule book and applied his newfound knowledge to an aging 1972 R5 that he purchased on the cheap. Next, young Wolff applied his talents at the racetrack to ultimately win the 410cc Production Class Championship with his much-modified R5 (see RD350 engine, transmission and disc brake upgrade reference prior) in 1979. The following year *Cycle's* managing editor, Phil Schilling, connected Wolff with Neil Sorensen from Minnesota, and the pair invested in a brand-new Yamaha TZ250 for Wolff to ride in the 1980 AMA Novice class. Wolff won his first race on the bike, and kept on winning to wrap up the championship. He advanced to the Expert class, competing in AMA Superbike (Suzuki GS1000) and Formula 1 (riding an aging Suzuki RG500), finishing the 1982 Superbike season sixth in championship points and fourth overall in the Formula 1 class.

A footnote about his pro racing career: To raise funds for that TZ250, young (but growing older ... and wiser) Wolff sold his 1972 R5-cum-RD350 production-class racer. Which brings us to the gold-and-black, all-original 1972 bike featured here that belongs to — you guessed it — Thad Wolff!

"The R5 was the bike that successfully bridged the gap between the racetrack and the public roads."

It followed me home — really

"I spotted it in a used car lot," begins Wolff. "The bike was for sale, and in really clean and complete condition," he added, right down to its original tires. That was in the autumn of 1993, and by then Wolff had well established himself as a member of the motorcycle industry, posing and riding as a professional photo model for magazine road tests and manufacturers' advertisements. He also served double-duty transporting bikes to photo locations. It was during one of those outings that he spotted the R5, a bike in surprisingly original condition.

"I was able to get back to the lot after delivering the bikes and I bought it [the R5]." He pauses to let that sink in, and then: "I wanted that SOB real bad!"

He rode the bike, off and on, for several years before parking it in his storage shed where it idly sat until he and I got to talking one day — him doing most of the talking — about that bike. I told him that we must photograph his R5, and that was all there was to it. After much prompting and bullying on my part, he finally relented, fetching the bike — original tires, its acquired patina and all — to see the light of day. That's when the fireworks really began after a thorough cleaning.

Smoke gets in your eyes

"It fired up right away," recounts a proud, older and wiser Thad Wolff. "Second kick. And when it did fire up the garage



Thad Wolff and his very original 1972 Yamaha R5, which even still wears its original tires.

filled with smoke. Of course, beforehand I forgot to shut the door leading into the house, so the whole place filled with 2-stroke smoke." His story gets better: "And guess who comes home just then?" Yep, The Boss, aka Mrs. Jody Wolff, initially greeted by a blaring smoke detector, followed by billowing blue smoke. "She thought the house was on fire, but she soon realized it was 2-stroke smoke, so she figured out that it had something to do with me and my bikes instead," Wolff says so sheepishly today. As most of us diehard gearheads have come to realize, it pays to

have an understanding and tolerant — and very patient — spouse.

Wolff suspects that his consequential oil boom had something to do with the oil injector pump sticking open and, over the years, allowing oil to seep into the engine's nether regions. In any case, he rectified the problem and as you can see by the riding shots, the old R5 runs smoothly down the road. And, in certain terms, it preserves the dreams and aspirations of countless aspiring and wannabe road racers alike. Because, regardless of what race bikes that came before or after Yamaha's R5, there's no taking away the impact that this model had on the sport of motorcycle road racing at all levels.

And that's something that the *Cycle* editors realized way back in 1970 from their middleweight shoot-out. Because when all was said and done, the editors proclaimed: "And we proudly present you with a winner: Yamaha's brilliant R-5, the best production street 350 in the world."

Truly, the R5 was the bike that successfully bridged the gap between the racetrack and the public roads of America for Yamaha Motor Corporation. In the process the R5 etched a legacy that will never be taken away by future models from the motorcycle company with the tuning fork logo. **MC**

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TRIALS STAR

1972 OSSA Mick Andrews Replica

Story by Greg Williams
Photos by Daniel Peirce

Most forms of motorcycle competition focus on achieving a high degree of velocity. Not so with the sport of observed motorcycle trials.

In this offroad competition, the main premise is to ride a purpose-built machine as carefully as possible over and around numerous obstacles, all while being scrupulously watched by section officials. It takes a good eye, a steady throttle and clutch hand and a very good sense of balance. In trials, points are added to a rider who “dabs” or “foots” in any given section of the event.

“Like golf, where the least amount of strokes on the course wins, trials are won by the person who touches their foot to the ground the least amount of times over the course of the event,” explains the North American Trials Council website. “The rider with the lowest score wins. Riding a section ‘clean’ without foot-ing is the ultimate goal of all riders (a score of 0).”

Trials have been around since the earliest days of motorcycling, when manufacturers competed in what were then called reliability trials. These events were devised to ultimately test the mettle of new machines. As internal combustion engine and power transmission technology improved, the reliability part of the equation became redundant. Instead, the focus shifted to

the building of specialized trials machines and furthering rider development. Regarding rider development, perhaps one of the best-known names in the sport of trials is Mick Andrews. And, perhaps one of the best-known makers of trials machines is OSSA — a Spanish-based motorcycle company. OSSA and Andrews joined forces in the 1960s, and a result of that partnership was a machine like the one seen in the accompanying photographs, a 1972 OSSA Mick Andrews Replica. This example is owned by Texas-based Ed Sass and was restored by Tom Willis.

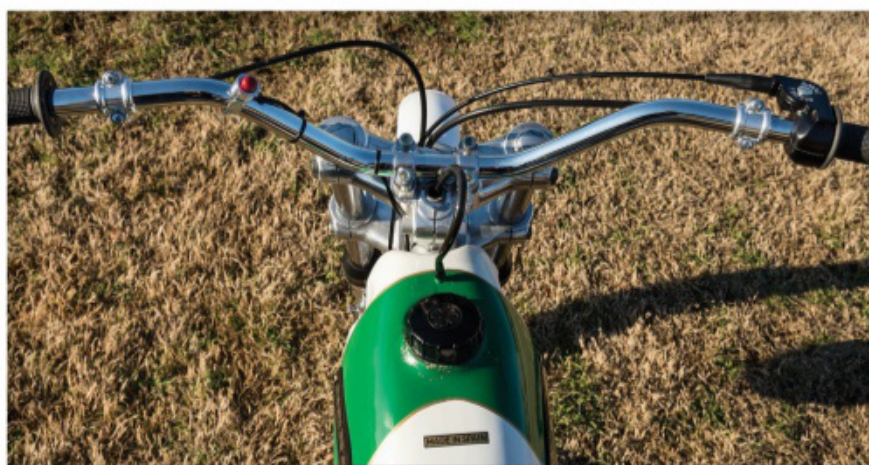
The 250cc OSSA Mick Andrews Replica trials machine represents something of a legacy for Andrews. Aboard a small-bore street bike, Mick Andrews began experimenting riding offroad near his English home in the late 1950s. By the time he was 17, Andrews was competing in trials events aboard a rigid-framed, 2-stroke-powered James. He then moved on to a 4-stroke, 350cc Matchless and his talent was noticed by AJS competition manager Hugh Viney. In 1961, during Andrews’ first competition on an AJS he beat well-known rider Sammy Miller, thus proving himself a competitive force on trials courses.

The move to OSSA

After AJS, Andrews rode for Bultaco, then became a factory rider for OSSA. Formed by Manuel Giro in the early 1920s, Orpheo Sincronic Sociedad Anónima, or OSSA, was a company that initially built theatre film projectors and other equipment. But Giro, who had been a merchant marine, liked to go fast



The air-cooled 244cc 2-stroke single puts out 19 horsepower at 6,500rpm (above). The kickstarter is on the left.



1972 OSSA MICK ANDREWS REPLICA

Engine: 244cc single-cylinder 2-stroke, oil mixed in gas, 72mm x 80mm bore and stroke, 19hp @ 6,500rpm

Carburetion: Single Mikuni VM24

Transmission: 5-speed constant mesh, wet multiplate clutch

Electrics/ignition: 6v, Motoplat electronic ignition

Frame/wheelbase: Dual-downtube w/engine as stressed member, 51in (1,295.4mm)

Suspension: Telescopic front, swingarm rear/twin hydraulic shocks

Brakes: 5in (122mm) internal expanding single-leading-shoe front and rear

Ground clearance: 10.5in (266.7mm)

Tires: 2.75 or 3 x 21in front, 4 x 18in rear

Weight (dry): 197lb (89.4kg)

Seat height: 31in (787.4mm)

Fuel capacity: 1.8gal (6.9ltr)

Price then/now: \$940/ (\$3,450 Bonhams Jan. 2017) (\$5,170 Mecum Jan. 2018)

across water and constructed some of his own engines and watercraft to pursue the sport.

According to ossaengineering.com, by the early 1930s it was the call of road racing that spurred Giro to purchase and campaign a single-cylinder 500cc Norton. He moved on to a BMW but found the 500cc twin-cylinder bike still lacked the power he desired. So, he installed his own 1,000cc 6-cylinder engine from his boat racing days in the frame of the BMW, only soon to discover that while fast in a straight line, the machine was a bear in the corners. To fix this, Giro installed a sidecar and became a champion sidecar competitor.

Motorcycles were never far from Giro's mind, however, and after World War II, when Spanish citizens were clamoring for inexpensive and reliable transportation, he saw an opportunity to introduce a small-bore machine to the marketplace. Ossa launched its first motorcycle in 1949. It was equipped with a 125cc engine and 3-speed transmission. More advanced models soon followed, along with a 50cc moped.

Eduardo Giro, Manuel's son, became an engineer and by 1965 was Ossa's director of development. That same year, he managed to gain Ossa great fame after the company campaigned two 175cc racing motorcycles at the 24 Hours of Barcelona, beating Bultaco and Montesa. Competition machines, and many racing victories, helped Ossa sell beyond just the Spanish market. However, the firm withdrew from road racing after their four-time 250cc Grand Prix winner Santiago Herrero crashed and died in 1970 at the Isle of Man TT. After that, Ossa seriously turned their attention to motocross, enduro and trials pursuits.



The single Mikuni VM24 carburetor (top). The large rear sprocket (above).



Trials specialist Mick Andrews, who had been collaborating with the company as early as 1966, brought Ossa top honors in 1971 and 1972 in the European Trials Championship. From 1970 to 1972 aboard an Ossa, Andrews also won the Scottish Six Days Trial.

The Replica

Ossa's Mick Andrews Replica was built between 1972 and 1978 and is a lightweight, lithe and trim package that weighs just 197 pounds without gasoline. Motivation comes from a 244cc single-cylinder, single port 2-stroke engine mated with a 5-speed constant mesh transmission with chain final drive to an 18-inch rear wheel. Twin shocks suspend the swingarm, while the 21-inch front wheel with its diminutive 5-inch drum brake is held in a set of lightweight telescopic forks.

Engine and suspension components are bolted into a double-loop steel tube frame, topped with a fiberglass gas tank, minimalist side panels and a small pad for a seat. Fenders are aluminum, and there isn't much else that makes up the Mick Andrews Replica. Ossa was set to launch the Mick Andrews Replica in 1971, but a flood at the Barcelona factory delayed release until 1972 — making Ed Sass' a first-year example.

Ed's been into motorcycles since he was a teenager riding a 1958 Allstate to high school. That was followed in college by a 1967 Triumph T100C. He loved to ride the trails, and although he'd take the Triumph offroad, his favorite bikes were lightweight Hodakas and Pentons. Bikes were left behind until the early 2000s, and he's since been accumulating many of the British

motorcycles that captured his interest when he was younger. He also has a collection of British cars, but still likes to pursue riding off the beaten path. Taking that a step further, he wanted to compete in the dirt.

"At my age, though, I didn't want to go out moto-crossing or flat-tracking," Ed explains. "I thought it would be somewhat safer to get into trials riding. And, because in my opinion there's nothing as classy as a vintage Spanish-built machine, I wanted to find something like a Bultaco or an Ossa."

Enter Tom Willis of Palestine, Texas. Tom grew up in Bartlesville, Oklahoma, and started riding in 1969 on a Honda Super 90. That bike was purchased in a box, and Tom assembled it and has been riding ever since, including motocross in the early 1970s, followed by a lifelong affinity for trials. He's also an avid street rider.

Tom says he's not a mechanic but enjoys restoring old machines. To his credit are several BMWs and even a Vincent café racer. Also to his credit are many Montesa and Ossa trials bikes, and he acquired this 1972 Mick Andrews Replica as a basket case in a trade. "It was mostly complete, but the bike had the greasiest engine I have ever seen," Tom tells us. "But under all that grease was the best set of cases I have ever owned. No scratches, no dents. Perfect cases. It was way too good a bike to part out, so I got Jay Huffman [of Huffman Vintage Motorcycle Restorations in Donie, Texas] to help me do a total rebuild of the engine."

Tom upgraded the engine with a beefier connecting rod from a Yamaha, a conversion that was sold in kit form via Ossa World. No longer in operation, Ossa World parts are now sold through vintco.com. Included in the kit was a crankpin and



Ed Sass aboard his Ossa. The bike wears plastic fenders, which stand up better to use than the original aluminum guards.

high-performance big end bearing and an improved piston wrist pin bearing.

A new piston, rings and wrist pin, main seals, countershaft seal, clutch pushrod seal, shifter seal, gasket set, main bearings and gear shaft bearings also went into the Ossa engine. Everything was tightened up with a new set of case bolts, and a fresh NGK B8ES plug threaded home in the head. A Mikuni VM24 carburetor with fresh rubber intake manifold adaptor was installed, as were Barnett clutch plates.

Tom says the finished engine sat on a shelf for a year before he continued working on the restoration. "I built it to be a rider," Tom says of the Ossa. To that end, everything Tom had was com-

pletely disassembled, including forks, hubs and brakes. All hardware was sent for zinc plating. The Ossa Mick Andrews Replica came stock with aluminum rims and stainless steel spokes. These were straight, so Tom simply polished all of the components and repacked the stock bearings with fresh grease.

"Trials bikes don't have a lot of miles on them so unless the bearings were dry or abused they are good to repack with grease and go," Tom notes.

Levered onto the finished wheels were Dunlop 2-ply trials tires, with two rim locks on the rear and one on the front. The tires are softly inflated, with 5psi at the back and 5.5psi up front.

The fork tubes were in good shape with no pitting of the



external hard chrome plating, so Tom simply inspected the internals and reassembled them with a new set of seals and some polishing of the fork legs. On the OSSA, many pieces were originally chrome plated, and Tom had the front axle and nut, rear brake pedal, clutch arm, header pipe and nut and several other small pieces rechromed.

The top engine mounts on the frame were broken. Tom welded them up and also widened the foot pegs by welding on extensions. Then, the frame, foot pegs, swing-arm and sidestand were sent for powder coating at Road Toys in Deanville, Texas.

In his inventory of parts, Tom had a stock fiberglass tank that had been coated with a Caswell sealer kit and painted in the Mick Andrews Replica white and green together with a good set of side covers. Knowing the OSSA was going to be a rider, he set them aside for the project.

Because the original aluminum fenders are somewhat delicate, Tom says he fabricated a front fender bracket using 3/8-inch stainless-steel tubing and mounted plastic guards front and rear.



Ed Sass and his 1972 OSSA Mick Andrews Replica.

After assembly, Tom says the OSSA fired up without issue, but he decided not to keep the bike for himself. That's when Ed heard the Mick Andrews Replica was for sale, and he bought the machine in November 2018.

"It's really simple to start," Ed says of his trials bike. "Turn on the gas, choke on and two kicks and it's ready to go. The awkward part of this is the kickstarter is on the left side of the bike, so I stand on the left and kick with my right leg."

After these photos of the OSSA were taken, Ed competed in his first trials, getting the bike dirty. But that's exactly what was intended

when Tom built the Mick Andrews Replica.

"You have to keep going," Ed explains about the sport of riding trials. "It's all about balance, being able to turn tightly, and having good control of the bike at very low speed. I'm still new at this, and I'm not yet getting the bike into position to be able to make my next move — but I'm learning, and it's practice, practice, practice." And, unlike most other forms of motorcycle competition, Ed concludes, "There's absolutely no advantage to being fast." **MC**

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FOR THE LOVE OF FIDDY

A land-speed record attempt in memory of a friend





Suited up for the salt, Andy Pickett before a return run.

Story by Anders Carlson
Photos by Kevin McIntosh

The salt turned to slush. This is bad. More so than dirt, sand or any other surface, the salt hangs onto the moisture. The air is heavy and the track surface is dangerously slushy and unstable. Real bad.

Speed and relativity

Southern California Timing Association officials are telling people to rethink whether they want to run today. Riders have gone down. But Andy's not having it. He's travelled over 1,500 miles in a 1973 Dodge van to be here. Hundreds of fellow Milwaukeeans chipped in gas money, spare parts and sweat equity for this land-speed record run. Andy's fought jetting issues all day long. Whatever's going to happen, happens today.

No one has unlimited time to make magic happen, but Andy's got less than most. The Milwaukee County vehicle fleet doesn't care about land speed records happening 1,500 miles away. As fleet mechanic for Milwaukee County, he's got to be back at work in three days.

So he suits up and pairs educated guess with gut feeling, and swaps jets. This is the run, meaning the all-important return run. His first run beat the record, but it's meaningless unless he can replicate it. So it's time to go fast, but slowly. That's what's written on the tank, anyway. Time to turn goal into glory.

The goal? 46.418mph. On a naturally aspirated, stock 1965 Honda CA110 motorcycle burning 110 octane race fuel.

Mr. Excitable

A land-speed record goal of less than 50mph makes perfect sense, if you know the players involved. The idea was birthed between the ears of Milwaukee's finest force of nature, Joe Haupt. Joey, Captain Snappy, Mr. Excitable, Fiddy, there's more — a loved man has many names.

He returned the love tenfold to anyone willing to throw a leg over a bike for fun and chance. His love of motorcycles had nothing to do with make, model or miles per hour. He just loved riding with friends and beating them on a track whenever possible. And he especially loved doing big things on small bikes.

Joey's maniacal laugh was half mirth, half madness. But the land-speed record attempt was serious business. His ever-present laugh hid the mental illness he'd fought for years. Tragically, Joey took his own life in October 2018. For many, the

sadness was matched only by the embarrassment of not knowing how much he'd been hurting. Andy knew his struggles and took it particularly hard, as he was living with Joey at the time. It was a gut punch to the Milwaukee motorcycle community.

"Do the thing" was Joey's simple answer to anyone's excuses. Whatever that thing was, there had to be a partner. That's the other part of "the thing." Joey didn't exist without other people. Like a tree falling in the forest, he needed a forest floor to crash against within earshot of as many people as possible.

Joey had recently ridden his 1959 BMW R60/2 to Bonneville to see Stacy "Triple Nickel" London attempt her own land-speed record. The dizzying number of classes gave him an idea. What about the smallest one? Wouldn't that be fun?

Andy recounts, "After Joey's funeral, I wasn't sure I wanted to do it anymore."

But the idea persisted. He eventually asked Joey's daughter, Haley Haupt, if she'd agree to take her father's place as Crew Chief. Whether she thought it was a good idea or not, she was game to help fulfill a dream her father and Andy had.

Andy

Who's Andy? The Other Guy.

The only thing more unlikely than Joey's approach to life, was finding another soul to play henchman. Andy Pickett was born to play the part.

A 2-stroke savant of sorts, Andy's obsession with small-displacement smokers has made him well known in Milwaukee County. From Allstates to Sears, from Suzukis to Puchs, Kawasakis to Yamahas, Andy's obsession with simple and small line the walls of his shop.

He became fast friends with Joey, sharing a sense for the bold and Quixotic. When the Bonneville bug bit him hard, Joey knew who his partner would be. Andy explains.

"Joey said, 'I want to be part of a crew, but I don't want to race.' Well, I was up for racing. It was a dream just to go, so why don't we race, too? We went to a bar and went through the rule book and found a record we felt we could beat."

The record? 46.418mph, for a 50cc pushrod stock motorcycle.



Top: Small displacement, big dreams.

Middle: Message from the tower: racers get updates on track conditions.

Bottom: Hopefuls were here. Race stickers mark their territory.

"Most of the records were over 100mph, but speed doesn't excite me."

There are hundreds of exotic records asking you to endanger life and livelihood. But here was a record with Joe Six-Pack in mind.

Sold American.

The 1963 Honda CA110 Sport 50

The "what" was simple, but "how" presented challenges. A 1963 Honda CA110 Sport 50, 50cc pushrod-powered motorcycle was a no-brainer. It fit perfectly in the P-PP class, meaning "Production Production-Pushrod." Internal modifications are allowed, though stock appearance must be kept. Doing it on a budget would take charisma, guilt and favors owed.

The bike in question already existed. Andrew Mauk of Moto-Scoot had already donated one. But a spare bike was needed.

"We found one two towns over. Then Chris Dietz donated the bike that became the pit bike, which held the spare engine!"

Half-assed ideas are one thing. But halfway execution is unacceptable. The most common motor on earth needed uncommon love and upgrades. The life of a simple Honda 50 was taking a strange turn.

"It was supposed to be a \$1,000 budget. But I didn't want to go all the way out there to just get close. I wanted to beat the record."

What seemed simple became expensive and hard. The growing market for small vintage bikes was working against them.

"It was \$450 for a cam, \$500 for an ignition and then another \$600 for head work. It just kept adding up."

The fulfillment of a promise between friends needed the help of friends. It was time to enlist Milwaukee's motorcycle community, no small resource.

"I have the hardest time asking for help, especially money. But friends started a GoFundMe, which kept getting bigger and bigger. And then my friend Ed Makowski wrote an article for On



Top: Shielded from the sun, Andy sews the bike back together after carb surgery.

Middle: Dyno runs helped diagnose, if not fix horsepower issues.

Bottom: Sealed by race officials, the tank still speaks volumes.

Milwaukee magazine, which really helped.”

Community and mission came together to finish the bike. Barely.

“We didn’t finish everything until the week we left.”

The setup and tuning of the CA110 was another big question mark. The jetting in Milwaukee was for 400 to 600 feet above sea level. Bonneville’s elevation is 4,236 feet. But moisture and heat meant atmospheric conditions could mirror anything from 3,000 to 8,400 feet above sea level.

Still, with the bike coming together mechanically, it was time for fun stuff like paint and personal livery. But Andy’s not a man for paint schemes. Or paint at all.

“I like rust. But this guy said it was disrespectful to bring a rusty bike. It needs to be in “neat appearance.” It’s a real rule. And you need a contrasting color to set it apart from the salt. So I used pink. The paint is standard issue for crews marking utility lines. It’s an ‘eff-you’ color.”

With bike colors decided, there was the issue of leathers and personalization.

“The track suit was a super cheap eBay score. It was from 1996. A guy bought them but never picked them up or used them. Funny enough, the pink leathers matched the bike.”

Leaving

Machine, man and leathers were all set. But nothing happens without a crew. Enter Ellie Dennis. The daughter of best friend and shop mate, Chad, she was down for high adventure.

“Haley couldn’t ride out there with me. But Ellie graduated high school and just quit her job to join the pit crew. You just can’t do it by yourself.”

Much midnight oil was burned days before departure. Gearing up for an AHRMA weekend was easy. But preparing for a week on the salt flats was different.

“The night before we left, we had boxes of spares, canopies, everything. But I realized we brought too much. We brought water sprayers to clean the bike off, but we just used those to keep us cool!”





Top: Andy perfects his racing yoga atop the CA110.

Middle: Among the easier bikes to Dyno, the CA110 gets its turn.

Bottom: Team Fiddy: Kevin McIntosh, Ellie Dennis, Haley Haupt and Andy.



Everything would travel in a 1973 Dodge B200, Joey's old van. Featuring a canopy vent lid made from old license plates, it was a genuine survivor. Literally. It'd been totaled, then fixed up. It wasn't a sure bet to make it to Bonneville. Andy's day job came in handy.

"Somewhere in Wyoming the oil filter disintegrated and we lost all oil pressure. The van died in a gas station 200 miles from anywhere. Lusk, Wyoming, I think. Bless the MOPAR Gods."

Shortly thereafter, they hit something similar to a monsoon. Then they stopped to help a fellow rider who'd gone down in the rain. Then the driver's side windshield wiper fell off during said monsoon. Then they actually, finally, Mother-Mary-of-God, made it to Bonneville.

On a searing hot Friday, on August 9, Andy and Ellie arrived at the SCTA car impound lot, not far from the Flats. Naturally, the caretaker of the lot was a friend of Joey's. So they slept at his hotel since the salt itself is off-limits for sleeping.

46.418 damned mph

Some 1,544 miles separate Milwaukee from the Bonneville Salt Flats. But it's nothing like the brown dreariness of an overcast Midwest spring. Jagged mountains surround a harsh white horizon line of nothingness. Regardless of temperature, the white salt reflects the UV rays of the sun everywhere, regardless of tent or shade.

Speaking of sun, it's rained. The salt is soaked and unstable. Time to set up, with the help of Haley Haupt, Joey's daughter. She's arrived in time to wait four days until conditions allow for runs. Welcome to Bonneville. Time to tune.

"The bike made 4.5 horsepower on the dyno in Milwaukee, but ended up only getting 3.5 horsepower at Bonneville."

Four days is a long time to fix issues. Or create new ones. Only an actual run can distinguish between them. But the conditions created a backlog. Usually, racers head to the pits after runs to tweak and tune. The number of entrants made that impossible. So Andy improvised.

"Instead of going the mile or two back





From left to right: Salt, salt, everywhere. Packing it in, but not giving up. 2020 awaits.

to the pits, we kept the jets in the van and changed them during the hours we waited for the next run."

Trial, error and patience. Years of making barn finds run helped, but only to a point. Remember the rain? Four days later, the track surface was still less than ideal.

"They told people to not run because it was slushy. But screw that, I'm only going 50mph."

An official first run netted 47.460 mph. The record was broken, but only halfway. Only a second run would render the first a real event. This didn't stop celebrations in any way, shape or form. They were finally doing The Thing.

Time to rest and finally enjoy the clear, moonlit sky.

To really do "The Thing"

A movie script would put the first run at the beginning of a story arc that peaked with the final one. But things got harder. Power was elusive. Initial runs were not encouraging. The salt was drying out, thanks to sun and wind. Damned wind.

In place of humidity and unstable salt

surfaces, there was now a 15mph headwind. Salt Flats aren't supposed to be this unpredictable, weather-wise. What was 47mph now became 41mph. To put that in perspective, Andy lost around 13 percent of his top speed fighting headwind that equaled a third of his total speed. Take that, Craig Breedlove.

Meanwhile, the pit crew was growing. Joining Co-Crew Chiefs Ellie and Haley was Kevin McIntosh, the newly minted editor for *AHRMA Magazine*. Adding to the capable pit crew, he manned the DSLR to shoot runs for a growing social media fan base.

It was August 15. They'd been in the desert for almost a week. Time was short. A return run to back up the best run clocked was the only thing that mattered.

"The first few runs, it ran great at idle without load. But on the last day it went, 'Br-ah-blah-blah.' So I went leaner, but only got 36mph for the initial run."

Not good enough. And Andy wasn't alone in his efforts.

"Thursday, they canceled Friday racing, except for those that made it into impound on Thursday. When folks heard this, they practically stormed the track to

get their runs in before end of day."

There had to be more left in the little Honda's tank. The last run of the day was coming up. Normally, six tracks are available for use, but all week only two tracks were available, one record track and a short one for rookies. Andy suited up. Time to do The Thing.

"I jetted it for thin air, at altitude. But the rain thickened the air, which I didn't think about. I'm just a novice. Then the full moon pulled all the moisture out of the salt. I ran 82 jets, up from 72. Then I went with 74's."

Final result: 44mph and change. The end, for this year. Damn.

Andy has the time slip somewhere, but can't remember the figure off the top of his head. Doesn't really matter. It's not 46.418 mph and that's that.

But think about this: The CA110 has a claimed top speed of 39mph. You try adding 20% to any bike's top speed with tiny jets and dusty wrenches in the desert.

The return trip was as beautiful as it was uneventful. The water pump died, but Andy had a spare.

Natch.



Does this desert make my bike look small? Andy aboard the Honda, flying past run markers.

In memory of Fiddy

Explaining Joey Haupt isn't easy. Where to start?

In 2015, he rode 160 miles on a Honda NX125 to the annual TWALD Run in Boscobel, Wisconsin, with his faithful dog Bella riding in a basket behind a windscreen made from a Frisbee.

He once bicycled from Milwaukee to Chicago for a friend's going away party. Just seemed more fun than motorcycles at the time.

Victory was relative. "I don't care about 12th, 13th or 14th place, there's no trophy for that!" Joey would say. Winning meant beating someone you knew and loved and having a damned good time, then sharing a beer afterward.

At the risk of breaking editorial boundaries, this author knew Joey well. Thousands of miles were shared in dubious vans going to racetracks for minor track days. And major ones, like the annual Barber AHRMA date. Without ever having met me, he showed up in Chicago to haul my bike 200 miles to Michigan for my first track day. This is how the sport grows — one act of selflessness at a time.

Andy's quest to get to Bonneville and break a record is no different. It's as much about honoring a friend's memory as perpetuating the beautiful lunacy of motorcycle stunts and accomplishments. There's no need for a plaque or a memorial fund. Just a reminder to do The Thing that keeps us kicking against the barbs of life's measured setbacks.

A common joke in certain corners of the AHRMA pits is "Winning is for losers." Joey knew first place well from his younger days racing bicycles. But anyone who shared a pit with him knew that he considered first place a technicality. Being at the track, beating times and watching novices take their first laps were better metrics of winning.

Andy misses his friend something fierce. Joey's indifference to trophies masked a profound competitiveness.

Andy recounts, "On track days there's a 6-foot rule, but Joey would clip you with his elbow in a full-lean turn, while passing, then pull away. It was just him showing you that you can be faster and better. But it really freaked me out!"

"I told him, 'I'm not ready for that!' He'd just laugh that infectious laugh and said, 'Well, apparently you are 'cuz you didn't crash!'"

Preparation only gets you so far. Joey's toolboxes usually contained the barest assortment of tools. But someone always pitched in. Tires would get changed, bad wiring got sorted, always just in time to make it to hot pit lane. He gave his time endlessly, and gave whatever tools he had, whether they were his to give or not. There were only needs, and eventually needs met.

Joey left a huge hole in the tri-state area. There's no other way to put it. But there's a faster way than time to heal wounds. Get your ass in your garage, invite some friends over, crack a beer and start prepping a bike for next season.



THOMAS BAKER



MIRIAM DOAN

Top: An ecstatic Joey after having just broken his right hand. Joey and Trish Damon getting competitive at Road America.

Homecoming

The goal was to get to Bonneville and make a go of everything. Check. Making dreams happen? That's just icing on the cake. Achieving a dream is a pain in the ass, anyway. You've got to find a whole new dream. What does the dog do once it's caught the car?

The homecoming was big. Dinner with family and friends, dozens of well-wishers giving call and more than a few well-deserved beers. And just like the beginning, it took time to wrap brains around what hearts started.

The support and energy Andy, Ellie, Haley and Kevin garnered from the

greater Milwaukee area is second to none. People didn't help to simply break a record. They helped out to give a dream a chance. The dream is still alive for next year. Andy is sanguine about the end result.

"Next year, if I beat the production record, I'll bump up to modified."

People who'd never been west of the Mississippi gave money to see Milwaukee's own make 50cc's worth of magic and glory happen in the salt and desert. Chad Dennis, Ellie's father, raised \$3,000 with a secret bike raffle. Nobody out-hustles Brewtown when adventure is at stake.

The city took notice. On *Milwaukee* magazine and the *Milwaukee Journal Sentinel* chronicled the effort of doing special and amazing things with next to nothing.

Most of all, it was something Joey would have cackled at. He knew the noble intent behind quixotic quests. It was his idea, after all. Do the most with the least. Most importantly, just do The Thing.

Joey did make it to Bonneville a second time, in a sense. Minus the laugh, misplaced tools and supportive yelling, he really was there. God and speed willing, he'll be there next year too. **MC**

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CREAM MACHINE

1930 "Ivory" Calthorpe 350cc

Story and photos by Robert Smith

Clive Curry had always wanted to participate in the Durban-Johannesburg trial, a regularity run in his native South Africa. But he lacked one essential ingredient: a motorcycle built before 1936, as the rules stipulate.

The "DJ" as it's known, is no longer a race as it was from 1913 to 1936. Instead, riders must arrive at each checkpoint as close as possible to a specified time, in the style of the modern Motogiro d'Italia or the resurrected Milano-Taranto run. This is the story of how Curry acquired what is perhaps the perfect motorcycle for the DJ: a 1930 "Ivory" Calthorpe 350.

The Calthorpe

In taking any product to market, one of the most powerful ways to boost sales or justify a higher price is to offer a Unique Selling Proposition — or USP. It's the feature or benefit that makes your product or service stand out from the crowd. For example, if you're the car rental company that will "pick you up" from your home or office, that's your USP. For many years, Royal Enfield's neutral-finder gearbox was an important USP.

If you were a maker of mid-size motorcycles in Britain in the late 1920s, it was a crowded marketplace. Almost every maker offered an overhead-valve 4-stroke 350cc single. But because of the British industry's reliance on outsourced components, the brands were often more-or-less interchangeable. Your new bike probably had a BT-H or Lucas magneto, Amac or Brown & Barlow carburetor, Burman or Albion gearbox and so on. The front fork was probably Druid or Webb. Even the engine might have been sourced from JAP, Blackburne, Matchless or Rudge. How does a company make its product distinctive?



From 1929 to the late 1930s, while most British motorcycles were finished in black, maker Calthorpe painted its bikes an off-white color they called Ivory. They were certainly distinctive, but were they any better than the herd? Was the color a USP — or just a gimmick?

Before Ivory

Like most British motorcycle makers, Calthorpe got its start making bicycles and bicycle components. George William Hands, though of British descent, was born in Bridgeport, Connecticut, but served his apprenticeship as a machinist in Birmingham, England. Partnering with one Arthur Cake, Hands formed Bard Cycles in 1895, but the company was insolvent by 1899.

By 1905, Hands had formed the Minstrel and Rea Cycle Co., which likewise produced bicycles and seems to have been more successful. Perhaps as a sign of what was to come, Minstrel and Rea cycles were particularly noted for the quality of their finish.

Hands also introduced Calthorpe automobiles in the early oughts, using proprietary engines from White and Poppe. So it followed that when the first Calthorpe motorcycle appeared in 1909, it used a 3-1/2 horsepower White and Poppe sidevalve engine. The single-speed, belt drive machine featured an innova-



1930 "IVORY" CALTHORPE 350

Engine: 348cc air-cooled OHV single with twin exhaust ports, 74mm x 81mm bore and stroke
Top speed: 67mph (approx.)
Carburetion: Single Amac TT (stock), Amal 276 fitted
Transmission: Burman 3-speed gearbox, handshift, chain final drive
Electrics: 6v, BT-H magneto
Frame: Dual downtube cradle frame
Suspension: Druid girder fork front, rigid rear
Brakes: 6in internal expanding drum front and rear
Tires: 26in x 3.25in front and rear
Weight: 320lb (est.)
Fuel capacity: 2.25gal Imperial (2.7gal. U.S.)
Price then: £47 (1930)

tive safety aid: When the front brake lever was applied, it also cut the output from the magneto, thereby adding engine braking to assist retardation.

Between 1910 and 1924, Calthorpe continued development of its motorcycle range still using proprietary engines, mostly from Precision, JAP, Blackburne, Villiers, and Pearson & Coles ("Peco"). It was for the 1925 season that Calthorpe introduced its own engine, an upright 350cc OHV single of mostly conventional design, but it featured the 74mm x 81mm bore and stroke that would stay with the 350cc single until 1936. Launched as the

"Sports" model, it featured enclosed rockers with automatic lubrication (though the valves were still exposed) and an automatic recirculating oiling system for the engine's double-roller-bearing big end. Primary and final drive were by enclosed chain through a Burman 3-speed gearbox. Sparks were courtesy of a CAV magneto, and carburetion by dual-lever Brown & Barlow.

The 350cc "3-1/2hp" Sports was an instant success, such that for 1926 a "Super Sports" model was also available with Amac TT carburetor, BT-H magneto and "tuned to be capable of 75mph." Both models continued for 1927, but now both fitted with the Amac TT and BT-H mag. A smart octagonal streamlined sidecar was also available.





For 1928, the two 350s were re-positioned as the "Popular" and "Sport," but with similar specifications. The first Ivory Calthorpe appeared in 1929, an updated Sport (now called the "Super"), with "domed racing piston" and a twin port head. (The Popular continued in black finish.) The Ivory could be ordered with a speedometer, Lucas or Miller lighting system and "specially tuned racing engine."

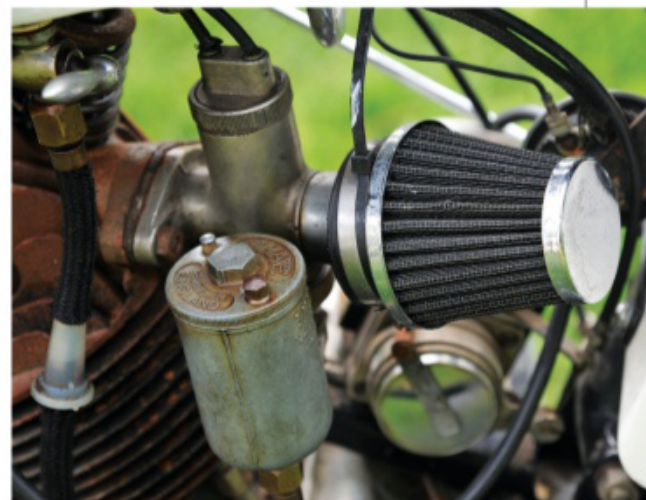
By this time, Calthorpe had dropped all its other models and relaunched the 350 Ivory in 1930 with a revised "sloper" engine angled forward in the frame as was the fashion of the time. The engine's bottom end now used ball- and roller-bearings throughout, abandoning the timing side bronze bush. An oil reservoir was cast into the front of the crankcase, and a patented oil feed to the engine used the timing gears as an oil pump. The cylinder head and the front fork were revised, the latter getting a new center spring.

The Ivory continued for 1931, but with a new 4-speed gearbox made under license from Albion. And for 1932, the 350 (now called "Ivory Junior") was joined by a 250cc 2-stroke Ivory Minor and 500cc Ivory Major. In 1933, Calthorpe announced its "one model" strategy, that being the 500cc Ivory. The 250 returned in

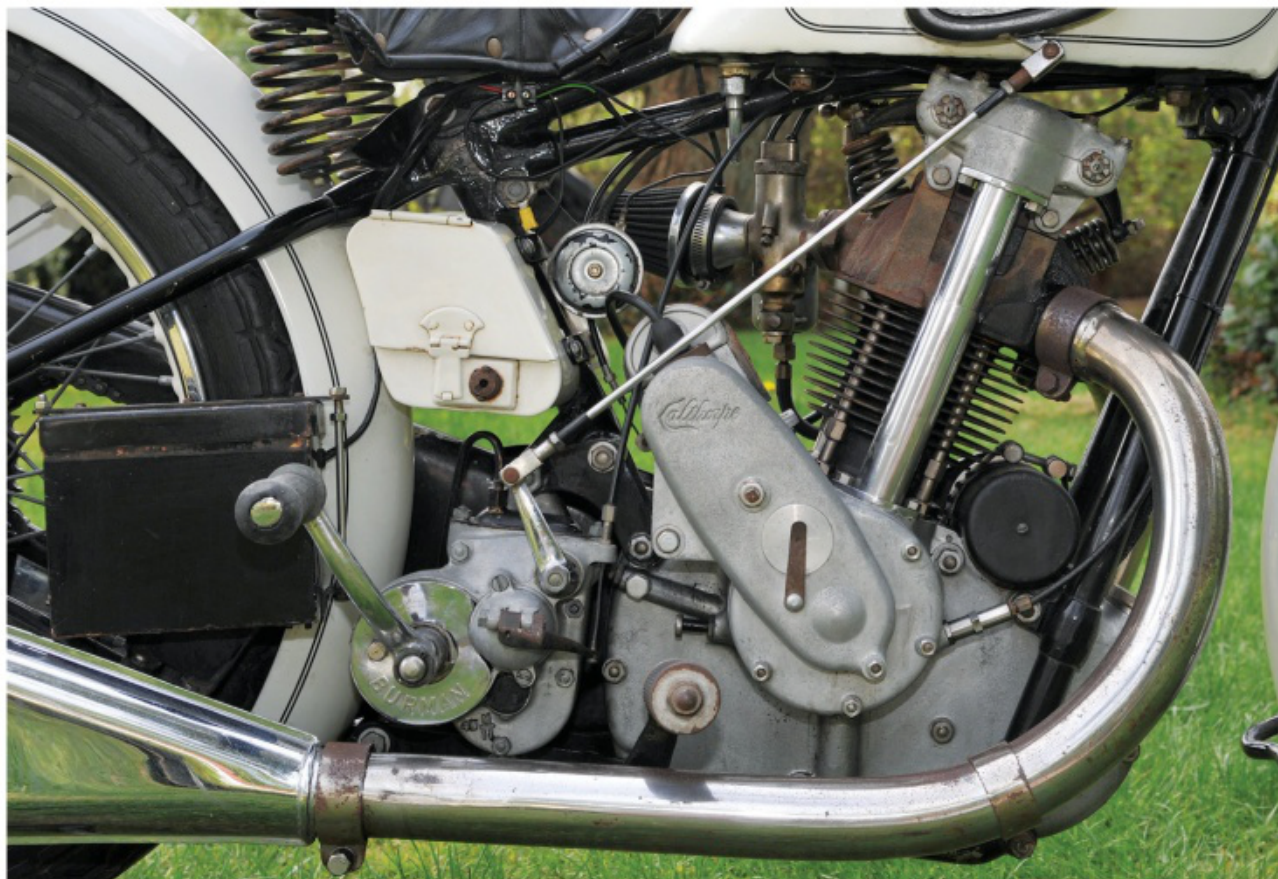
1934 (as a 4-stroke) and the 350 reappeared for 1935. The 1936 range featured fully enclosed valves and included special competition versions of the 350 and 500; but these were still based on the 1930 engine, which was reaching its development limits (especially the 500), and reliability suffered.

Motor Cycling magazine tested the 1937 Ivory Calthorpe 350 "de luxe," (now with 71mm x 86mm bore and stroke). They found that starting required "a little more effort than usual," but noted that "Idling was excellent and particularly smooth. Indeed smoothness was a characteristic of the engine throughout the rev range." On the open road, "the Calthorpe handles like a 250" with a marked "self-centering effect" to the steering, and when cornering "it seems automatically to adjust itself to the correct angle and hold itself there regardless of the road surface ... At high cruising speeds, the handling is excellent and requires no effort."

They found the Calthorpe would cruise comfortably "between 50 and 60mph and recorded a one-way top speed of 67mph. Acceleration from a standing start "was almost as good as many 500s," reaching 56mph in a quarter-mile. Brakes were "well up to standard," and fuel economy reported as 99.6mpg (Imperial). The testers also noted that the engine "remained remarkably



The lever mounted to the end of the bar is the clutch, while the smaller lever is the compression release (left).



The 348cc air-cooled single is fed by a non-stock Amal 276 carburetor (left). The large wooden box on the handlebars is a route sheet holder (below left).

free from oil leakage" throughout the test. Their only complaint: a definite flat spot in the power curve under acceleration, "which caused the engine to cough momentarily."

But by 1938, the company was in financial trouble, and was sold to Bruce Douglas, nephew of the founder of Douglas Motorcycles. The Matchless-powered Calthorpe Cavalier was sold for one year, 1939, before hostilities interrupted (www.calthorpe.info).

The DJ Run

Between 1913 and 1936, what must have been one of the most challenging motorcycle races ever was run in South Africa between the coastal city of Durban and the interior hub of Johannesburg. The race ran over 420 miles (roughly the distance from Denver to Albuquerque, New Mexico) on the "unimproved" (dirt) roads of the day. The conditions were atrocious: deeply rutted wagon tracks, open "veldt" (prairie) with grasses up to 7 feet high hiding treacherous sink-holes and levees. Riders negotiated farm gates (which they were required to open and reclose), and at least one rider was almost decapitated by a wire strung across the top of a gate. Broken bones and fractured forks were common, but the first rider home in 1913 was A.W. McCaig of Johannesburg on a 544cc Bradbury, completing the course in 14 hours, 46 minutes at an average speed of 29mph.

The race was run every year from 1913 to 1936 (except for the war years). However, the death of a popular 25-year-old racer, Jock Leishman, in the 1936 event, decided the organizers that the race had "outlived its usefulness."

But the spirit of the DJ lived on, and in 1970 the name was revived for a regularity trial for motorcycles made before 1936, meaning speed was less important than arriving at each checkpoint at the right time. Winner of the 1970 DJ Run was G.L. Palmer riding a 1926 Royal Enfield, with an aggregate timing error of 5 minutes, 34 seconds. The DJ has run every year since, now over two days, and with an entry list in 2019 of 79 riders (www.djrun.co.za).



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Clive Curry and the DJ

Clive Curry is a recent emigrant from South Africa now living in British Columbia, Canada. Among the effects that moved with him to his new home was a 1930 Ivory Calthorpe 350.

Curry had always wanted to ride in the DJ but lacked one essential item — a suitable pre-1936 motorcycle. So he went looking for one. But the 350 wasn't his first DJ bike. Nor was it his first Calthorpe.

"I was looking for a bike and I heard in my club that there was a mechanic who had a vintage bike he might want to sell. It was a 500 Calthorpe. But he just had the frame and a few bits and pieces. It was about one-third of a bike." Regardless, Curry bought the collection of parts. But he still needed a running DJ bike. "I went to the start of the DJ one year. Picture about 130 vintage bikes in an underground parking lot!"

One of the competitors was riding a 1935 Velocette MSS. He didn't get very far. "He just got out of the parking lot, and then the bike stalled. He couldn't get it restarted," Curry says. Regardless, it seemed like the perfect bike for the run, and Curry got to know the owner through the Veteran and Vintage club.

"Eventually I saw that the Velocette was for sale. So I made an offer." After collecting the Velocette and getting it home, Curry started checking the bike over. "I looked in the oil tank

and it didn't look like nice clean oil," he says. So Curry poured the oil out and poked around inside, finding that the tank also contained a hornet's nest! After draining and cleaning the oil system, Curry tried to start the Velo without success. A new carburetor and a rebuilt magneto did the trick. So Curry entered in his first DJ around 2007.

"In my first run, we got to just past Ladysmith (about 150 miles from the start) and my front wheel bearing packed up." That was the end of Curry's first DJ. But he returned the next year, again with the MSS, and this time finished the run — in spite of a broken frame tube! "So I had a terrible ride with a headshake all the way through to Joburg."

It was while he was searching for parts for the 500 Calthorpe that Curry found out about a complete Calthorpe for sale in Johannesburg.

"I met [DJ luminary] Mike Milner-Smyth, who said he knew a person who had a Calthorpe up in Joburg. It was the Calthorpe I actually ended up buying."

It turned out the 350 Calthorpe had quite an interesting history. It had been rebuilt specifically with the DJ Run in mind. But the owner died after only a small number of entries. However, his widow took over the Calthorpe.

"She remarried and did quite a few DJ runs on it," Curry says.

At that time, she decided not to part with the Calthorpe.

But not long after, Curry saw the same bike for sale on South Africa's Junk Mail online marketplace. A price was agreed, and Curry collected his new machine. And though it was running, it needed a lot of work. In particular, the valves guides were badly worn, so a cylinder head rebuild was in order.

Curry first entered the DJ Run on the Calthorpe in 2009, with follow-up rides in 2011, 2012 and 2013. He finished all four runs, though of course not without incident. That said, the most serious problem with the Calthorpe was difficult starting on one run that required a push start each time he stopped. Curry estimates that through its three owners, the Calthorpe has completed at least 20 DJs!

The DJ Run also allows competitors to choose whether to run in faster or slower groups.

"I got my best position on the Calthorpe when I finished in the slowest group. I think if you go in a lower speed group you've got a better chance because you can correct your time



Proud owner Clive Curry and his 1930 "Ivory" Calthorpe 350.

much easier. But it's bum-numbing!"

Another problem Curry discovered running in the slower groups was clutch wear from slipping the clutch. The clutch plates would score the basket, which needed repairing after each Run.

"And the bike wants to go faster, so it's much more fun if you do it without worrying too much about your position and just having a fun ride."

Overall, though, Curry is very enthusiastic about the DJ Run.

"The organization that goes into it is really fantastic. There's a camaraderie there that you can't believe. Everybody sort of pitches in and helps out. And unfortunately, it's getting to the days now where those sort of

people are dying out. And I don't know how much longer it will carry on. But luckily there are some young people that are coming in.

"But you need the people that are retired and have the time and the money to be able to organize things like that." **MC**

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The 1973 Morbidelli 125 GP racer, as ridden by Ángel Nieto (front), along with other highlights from the Morbidelli museum.

END OF AN ERA

Museo Morbidelli Sale

Story by Alan Cathcart

Photos from the Alan Cathcart archives and Bonhams

Eighty-five-year-old Giancarlo Morbidelli's life story is a rags-to-riches saga worthy of Hollywood.

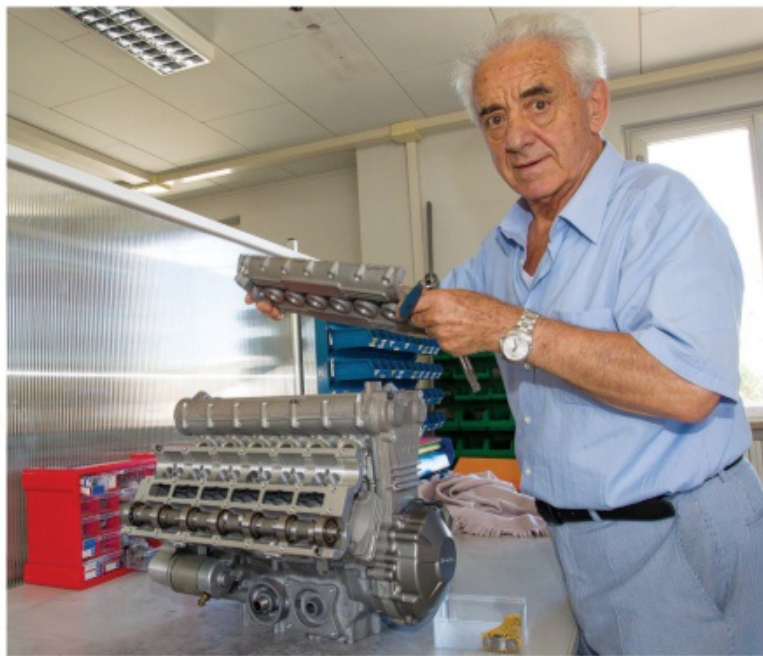
One of the several self-made men from humble backgrounds who in the 1960s and 1970s powered Italy's post-World War II resurgence from derelict battleground to thriving economy, Morbidelli was born in 1934 into a poor family living off the soil in the Marche region of Italy. He began work at 16 as an apprentice fitter in a factory repairing woodworking machinery for the furniture industry, one of the two engineering specialties of what became his home town of Pesaro, on the Adriatic Coast south of Rimini. The other? Motorcycles — it's the home of Benelli.

This helps explain Giancarlo Morbidelli's passion for motorcycle sport which he pursued from a very young age, even after starting his own machine tool company in the late 1950s with working capital of just 30,000 lire (then about \$40). Using his technical skills after hours to tune locally built Benelli and Motobi bikes to a succession of race victories came as a relief from the punishing days spent building Morbidelli Woodworking Machines into the global industry leader it had become by the 1980s. The company eventually employed over 300

people to manufacture increasingly high-tech CNC machine tools for worldwide export to over 60 countries. In 1997, Morbidelli sold the firm to his SCM rivals from Rimini (coincidentally, the then owners of Bimota), who built a new Morbidelli plant on the outskirts of Pesaro. This left Giancarlo himself with the previous inner-city factory site, which he then converted into a motorcycle museum that opened to the public in 1999, displaying over 350 bikes dating from 1904, including a complete array of Morbidelli GP racers.

For, like many a race fan, Giancarlo's ambition was always to go racing with a bike bearing his own name. The results when he did so were spectacularly successful, especially given the relatively modest nature of his homespun team. After sponsoring the local Motobi factory's race team in the mid-1960s, Morbidelli constructed his first 2-stroke race bike in 1967 using the crankcase and gearbox of a 50cc Benelli, but with his own cylinder. That led to his designing and constructing the first complete Morbidelli 50cc GP racer in 1969, and this and all the other sky blue-and-white rotary-valve racers carrying the Morbidelli name were

constructed in a corner of their creator's Pesaro woodworking machinery factory, even down to the wooden patterns used to make the engine castings. As an accomplished self-taught engineer, Giancarlo did much of the design work himself when time permitted, while hiring freelance designers such as first Franco Ringhini, and then Jörg Müller to take overall charge of the projects. There's a (true) story of how the boss of Kawasaki's race



Giancarlo Morbidelli with his prototype V12 engine.

MARCO DEK



One wing of the Morbidelli Museum in Pesaro, before the collection was dismantled in preparation for the upcoming auction.



The ex-Ángel Nieto
1973 Morbidelli
125 GP racer.

team visited the Morbidelli pit to congratulate him, after Mario Lega had defeated the Green Meanies to win the 1977 World 250GP title on the Pesaro-built bike. “And how many engineering staff do you have in your race department, Mr. Morbidelli?” asked the Japanese executive politely. “Well, normally there’s three of us, unless I’m there, when it’s four,” answered the man whose home-built Grand Prix racer had just defeated the might of Japan Inc. to win the 250cc World crown.

More wins

At various times between 1969 and 1982 the rotary-valve Morbidelli 2-strokes contested every single GP class from 50cc to 500cc, using the best available components such as Hoeckle crankshafts, Mahle pistons and Nikasil chrome-plated cylinders, all made in Germany to Morbidelli’s design. After tragically losing Gilberto Parlotti, who died after crashing his Morbidelli twin in a wet 1972 Isle of Man TT when leading the 125GP World Championship, Giancarlo’s bikes went on to win six Riders World titles altogether under the Morbidelli or MBA banners — as in Morbidelli Benelli Armi. The privateer replicas which came to dominate 125GP grids for over a decade — MBA-mounted riders took seven of the top 10 places in the 1978 125GP World Championship points table — were built in the former Benelli firearms plant, a spin-off from the historic motorcycle factory. Five of these titles came in the 125cc category and one in the 250cc class, in the collective hands of Paolo Pileri (1975), Pierpaolo Bianchi (1976-1977 and 1980),

Mario Lega (1977 250GP) and Eugenio Lazzarini (1978). Lazzarini was a diminutive Pesaro bike dealer whose shop was situated 200m from the front gate of the Morbidelli factory, and would later become the Museo Morbidelli.

Indeed, Morbidelli works riders were almost all local recruits, not only Lega but also his successor Graziano Rossi. Rossi was a Pesaro primary school teacher who won three GPs for Morbidelli to finish third in the 1979 250cc World championship, but is nowadays better known as Valentino’s dad! A brave attempt to challenge the Japanese in the 500GP class saw the 1979 debut

in Rossi’s hands of one of the most sophisticated GP racers yet built, the rotary-valve square-four Morbidelli, with from 1981 onwards a cast aluminum monocoque chassis. This was once again designed and constructed entirely in-house at Pesaro, and though it only raced at World level for two seasons it proved its worth by winning two rounds of the Italian 500cc Championship in 1982, against Japanese custom-er bikes.



Giancarlo Morbidelli with the Morbidelli V8 at his museum in 2018.

From two wheels to four

At the end of that year, Morbidelli exited two-wheeled Grand Prix racing — not because he’d fallen out of love with motorcycles, but because his son Gianni, born in 1968, had begun to carve out a race career for himself on four wheels. Typically, his dad threw all his efforts into helping him reach the top, including building a Morbidelli 125cc single-cylinder reed-valve engine which took Gianni to the 1986 Italian National kart title, as well as the runner-up slot in the World Championship held that year

The ex-Giacomo Agostini 1976 Morbidelli 250 GP racer.



in the Caesars Palace parking lot in Las Vegas. With his father alongside as manager and adviser, Morbidelli Junior moved up to proper car racing while still in his teens, becoming European F3 champion in 1989, then a Formula 1 test driver for Ferrari. He made his F1 race debut in 1990 for Minardi, before being loaned to il Cavallino to replace the recently fired Alain Prost. Gianni made a point-scoring Ferrari debut in Australia in 1991, and during an eight-year F1 career embracing 67 GP starts, he drove for Minardi, Footwork Arrows and Sauber as well as Ferrari, with a best finish of third in the Australian GP in Adelaide. He's currently racing for VW in Touring cars, after a spell driving for Volvo in the British Touring Car series.

In fact, the Ferrari-Morbidelli connection had been established two decades earlier, as Giancarlo himself once revealed on one of my regular visits to see him, when I asked why Morbidelli engine crankcases all had a Cavallino Prancing Horse emblem cast into them. "Enzo Ferrari and I had become friends," he replied. "He was very passionate about bike racing, because in the early 1930s Scuderia Ferrari competed with British-made Rudge machines in motorcycle as well as car races, and Enzo believed this was an excellent training ground for racing drivers — three of his Scuderia's most successful drivers, Tazio Nuvolari, Achille Varzi and Piero Taruffi all raced bikes before turning to cars. He offered to cast our crankcases in his foundry at Maranello, where they used only the latest production

methods and the best materials. Of course, I accepted, and it was an honor for me, as well as a pleasure for him, that we were so successful with engines he had a hand in creating, which naturally carried il Cavallino on them!"

With son Gianni's racing career launched, Papa Morbidelli could return to doing what he enjoyed most, putting into metal the multitude of ideas bristling with original thought for two wheels and four flowing from his fertile mind. Like the 22cc

reed-valve 2-stroke clip-on engine Giancarlo built to power the pushbike he used to zip around his Pesaro factory without any need to pedal very hard, thousands of which were later built in India under the Mosquito label, after he sold the design to a firm there. Or the SOHC conversion he conceived for his wife's twin-cylinder Fiat Panda shopping car, which Giancarlo found so gutless when climbing the hill to their beautifully restored 18th century home overlooking Pesaro, that he designed his own belt-driven overhead-cam

replacement for the pushrod valve gear, then sold the result to an Italian tuning house which marketed it as a popular aftermarket kit. Or the first Morbidelli car engine, a 2-liter V6 reed-valve 2-stroke engine he designed in 1983 to be raced in Formula 2 in a Dallara chassis. Sadly, its development was aborted with the death of the F2 class — but his friend Enzo Ferrari's race engineers were sufficiently impressed with it in testing to build their own, ultimately abortive, 2-stroke V6 design.



Ángel Nieto aboard the Morbidelli 125GP racer at Misano in 1973.



The ex-Dario Ambrosini
1950 Benelli 250cc GP
DOHC single.

A fertile mind

And there's more. How about the 30cc rotary-valve 4-stroke motor with Cross-type valve gear, which Giancarlo created for use in an ultra-economical moped? Or the then innovative paddle-shift gearbox he designed in 1991 for the Minardi F1 team while son Gianni was racing for them? Or the self-tuned V12 engine in one of the succession of Jaguar cars he's always driven down the years, delivering 20% more power and 10% more torque than when it left Coventry. Giancarlo's passion for the British marque is the reason the Morbidelli V8 motorcycle bore the emblem of a leaping jaguar! Or the replica 4-cylinder Benelli 350/500cc GP racers that Morbidelli had a large hand in helping British enthusiast George Beale construct, on the basis that the worn-out originals must be displayed in museums, but faithful external copies should be built and raced so that modern audiences can experience the thrill of seeing — and hearing — such bikes in action. Or the ultra-short-stroke Matchless G50 engines Morbidelli developed for Classic racing, again in collaboration with Beale. Or the endless succession of historic motorcycles he tracked down for his Museum and often restored personally, with the help of the two engineers he continued to employ, who'd previously constructed his title-winning GP racers.

And then, just because he got bored on holiday, you understand, in 1994 Giancarlo Morbidelli designed an 850cc V8 motorcycle and put it into production — and then built the makings of a 750cc V12 two-wheeler, before he was so sadly stricken down by illness with it still incomplete. The liquid-cooled, 4-cam, 32-valve, 847cc Morbidelli V8 was intended to be the ultimate sports

touring bike, but suffered a false start thanks to renowned car designer Pininfarina's controversial styling for the prototype. To resolve this, Giancarlo Morbidelli entrusted the project to nearby Bimota, who delivered a much refined, classy-looking motorcycle with handling to match its engine design. Sadly, only a prototype and three production bikes were ever built before the project came to a halt in 1998, after Morbidelli sold his machine tool business. This included — as much as for accounting reasons as anything — the rights to the Morbidelli V8 engine and all its tooling. After their bruising experience with Bimota, new owners

SCM had no further interest in motorcycles, so the project died a death, and as the only journalist permitted to ride the 850 V8 — with Giancarlo insisting on driving the camera car, with snapper Kel Edge hanging out of his Jaguar XJ8 to shoot me riding it along the Strada Panoramica

between Pesaro and Cattolica! — I can attest to what a missed opportunity that was.

"In 1994 Giancarlo Morbidelli designed an 850cc V8 motorcycle and put it into production."

The museum

With time on his hands now that he no longer had a company to run, Giancarlo Morbidelli's continuing passion for motorcycles led him to open the Museo Morbidelli in the former Morbidelli factory in Via Fermo, Pesaro, adapting the old factory buildings to house his continually growing collection of historic motorcycles, with the old Reparto Corse race HQ becoming a restoration workshop. In 1999 he opened the doors to the public, and although Italian sport and racing machinery took pride of place, naturally headed by the outstanding display of Morbidelli race bikes in a dedicated area, the 350-strong collection displayed in an area



The ex-Tarquinio Provini
1964 Benelli 250cc
4-cylinder GP racer.

of 32,000 square feet represented bikes from all over the world, including several prototypes and other one-offs.

It's therefore all the more poignant that such an effervescent, creative and modest person as Giancarlo Morbidelli should have been struck down by Alzheimer's in the sunset of a productive life. It's not hyperbole to say that it's a tragedy this has happened, necessitating the closure of the Museo Morbidelli and the liquidation of the collection for the simple reason that Giancarlo created it personally, and was responsible for overseeing its existence almost single-handedly. With the Pesaro city authorities either unable or unwilling to assist with its maintenance, and indeed continuing to levy crippling annual property taxes for the facility even after it closed to the public over a year ago, the Morbidelli family and especially Giancarlo's son Gianni and daughter Letizia felt they had no option but to close the Museum, and dispose of the contents.

After receiving proposals from several auction houses, the Morbidelli family selected U.K.-based Bonhams to conduct the sale, which will take place over two separate dates. That's because export licences are required for the 70-plus pre-1945 motorcycles in the collection, whereas this is not the case with postwar machinery — anything made more than 75 years ago must have an export licence to be moved outside the country, even to another EU nation. In July last year the postwar motorcycles were loaded into a convoy of four large British-registered trucks, and driven to Bonhams' top-secret warehouse somewhere in the U.K. They've been kept there since then in air-conditioned security alongside Old Master paintings and antique furniture and jewelry, while the

furor which greeted the news of their departure from Italy has raged more or less unchecked. Gianni Morbidelli in particular has suffered untold criticism verging on paranoia, with deeply offensive accusations being levelled against him by self-appointed guardians of Italy's cultural heritage, irate that what's believed to be the largest private collection of motorcycles in the country should have been exported abroad. Preferring to avoid adding fuel to the flames, Gianni declined to be interviewed for this article on the topic of the sale — and all too sadly his father is unable to do so, either — beyond stressing that he has been scrupulous in following every single legal requirement in consigning the contents of the Museo Morbidelli to Bonhams for sale in the U.K.

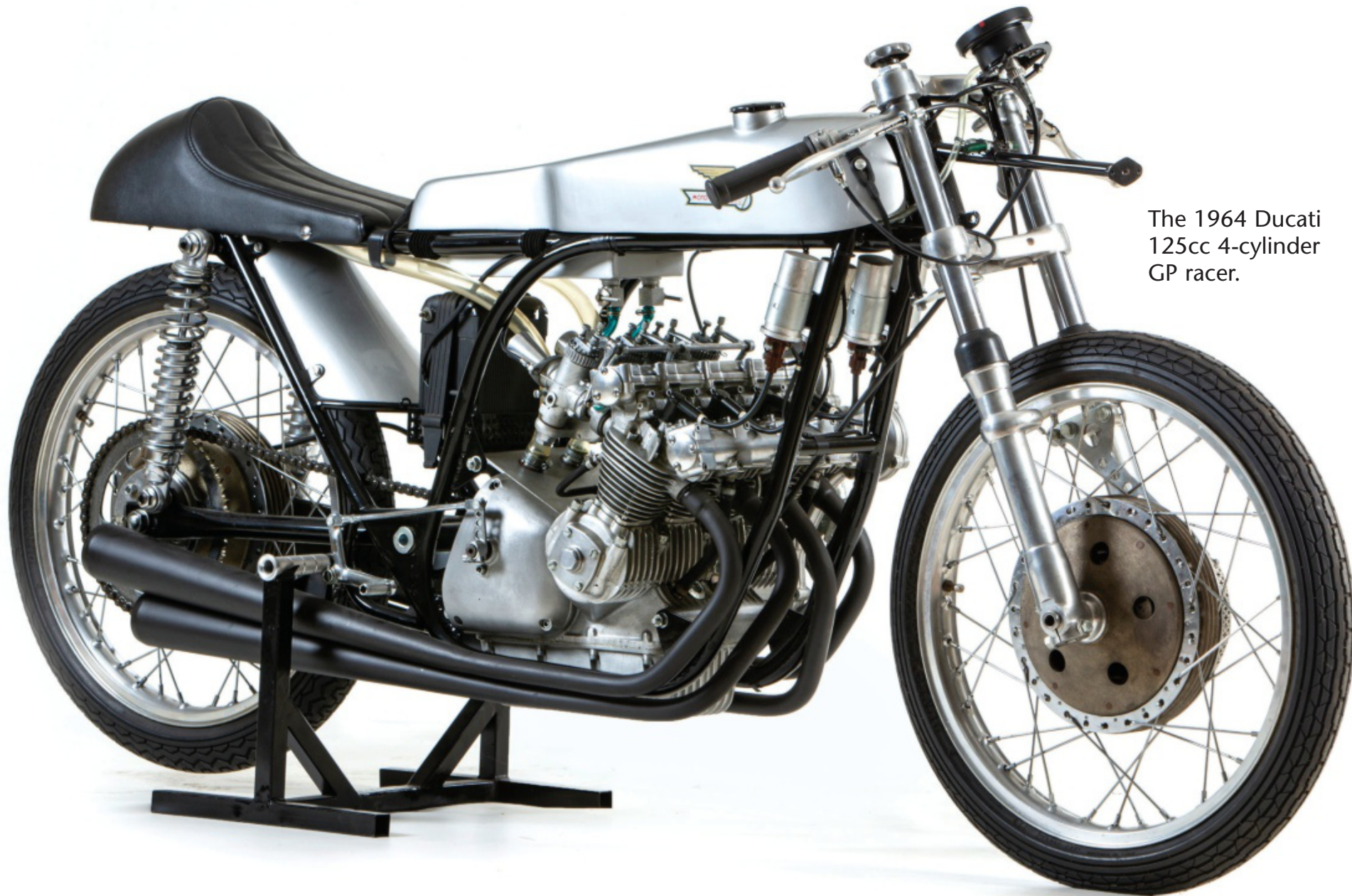
The sale

It has now been confirmed by Bonhams that on April 25-26, 2020, at the Stafford Classic Bike Show, the first tranche of bikes numbering 313 lots in all, ranging from immaculate restorations to incomplete prototypes and unrestored barn finds, all of which Giancarlo Morbidelli collected over a 40-year period, will go under the hammer at Bonhams' annual Spring Sale ([bonhams.com/auctions/26111/](https://www.bonhams.com/auctions/26111/)).

Although the family is understandably retaining the vast majority of the Morbidelli race bikes contained in the museum, it has released two examples of these for the sale. They were ridden by the two most successful riders in GP history, one with 15 World titles to his name, the other with 13 (or, as he always insisted, 12 plus 1!). One is the 1974 Morbidelli 125GP racer (Bonhams estimate: \$105,000-\$155,000) ridden by the late, great Ángel Nieto to second place in that year's Spanish and German GPs in his



Tarquinio Provini's signature on the bike at top.

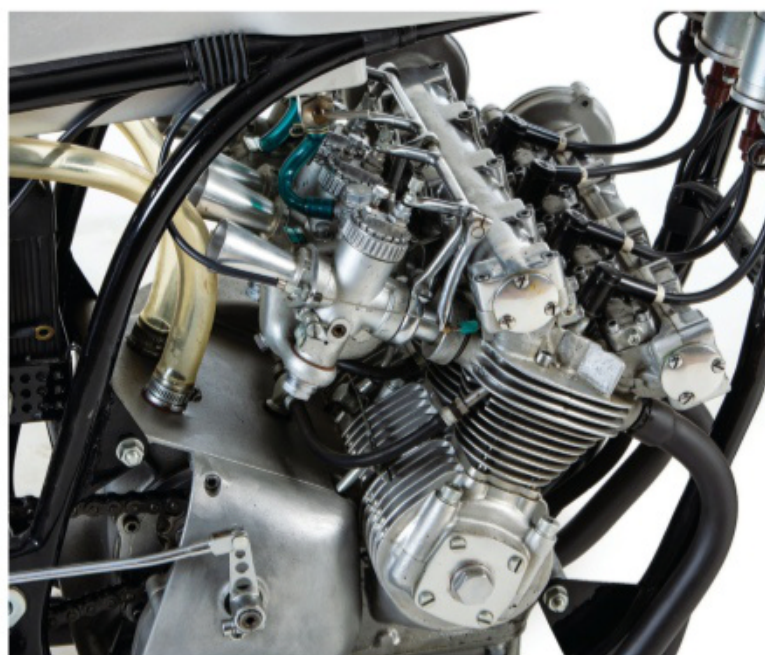


The 1964 Ducati 125cc 4-cylinder GP racer.

single season racing for the Italian team [see action photo, Page 69]. The second is the first Morbidelli 250GP machine on which Giacomo Agostini had a one-off ride in August 1976 at Misano, finishing second (estimate \$75,000-\$105,000).

Unsurprisingly, the Museo Morbidelli collection also features many historic Benelli motorcycles which, being built in Pesaro, were another of Giancarlo's great passions. These are headed by the 250cc DOHC single which Dario Ambrosini rode to the 1950 World Championship (estimate \$155,000-\$235,000), and the 1964 Benelli 250cc four, ridden and autographed by the late two-time World champion Tarquinio Provini (estimate \$105,000-\$155,000).

However, arguably the greatest jewel in the entire Museo Morbidelli collection was not made in Pesaro, but some 90 miles to the north-west, in Bologna. That's the unique 1964 Ducati 125cc 4-cylinder GP racer, for which the Bonhams estimate seems somewhat on the low side at \$525,000-\$780,000 — since many expect this to be the first million-dollar motorcycle to be sold at auction, despite being a prototype machine which was never raced. Created by Ducati's chief engineer Ing. Fabio Taglioni, after it was sidelined following initial tests, this motorcycle disappeared from view for several decades. Its engine, which had been on display in a technical museum in what was then Leningrad, appeared post-Glasnost in the former Russian republic of Latvia. Having acquired it and brought it back to Italy in 1989, Giancarlo Morbidelli was later able to reunite it

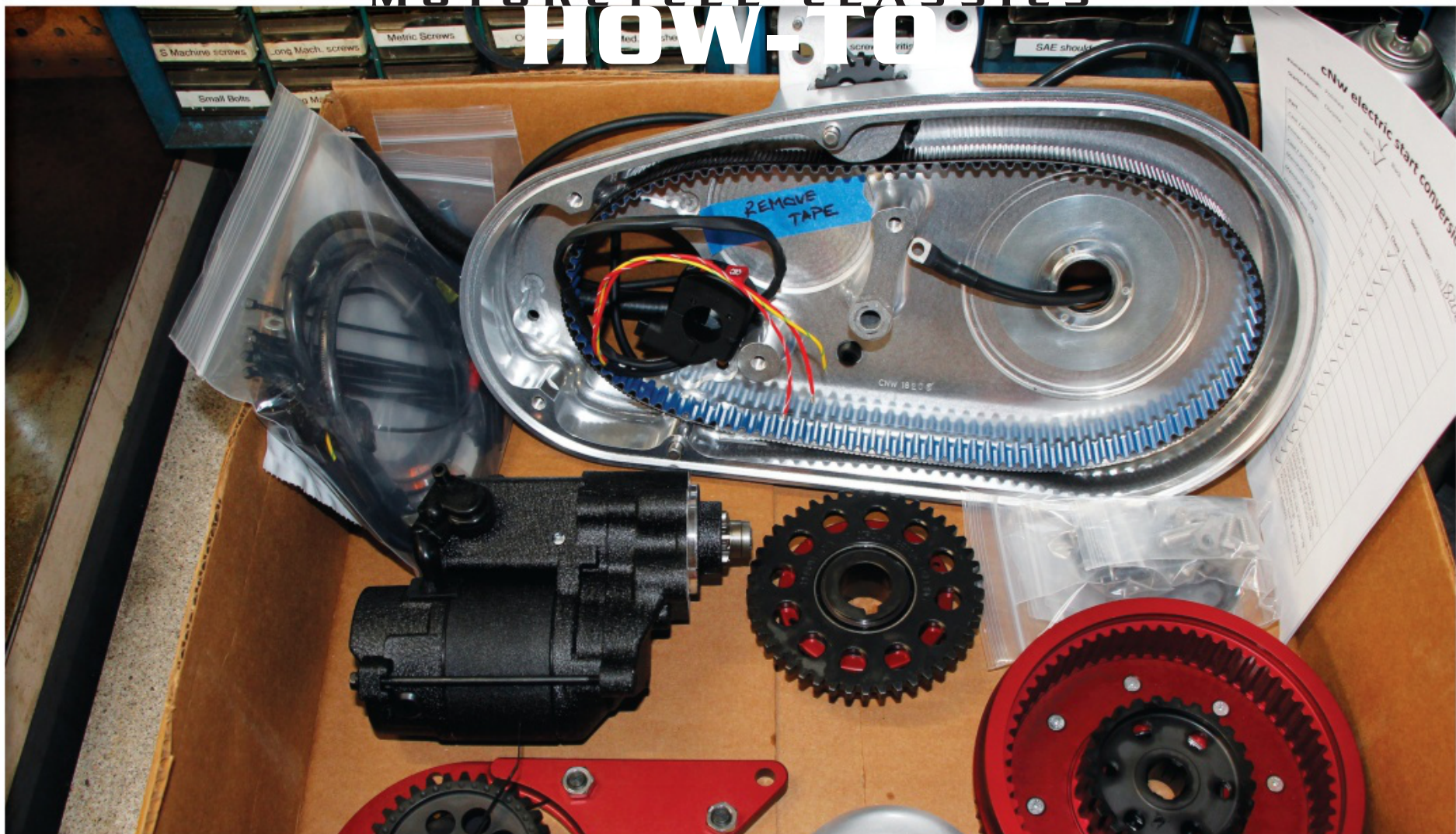


Fabio Taglioni's 125cc 4-cylinder is a miniature marvel.

with the original chassis, which had meantime reappeared in former Yugoslavia, in what is now Croatia! Giancarlo completed rebuilding the legendary Ducati 125 four in 2000, and would take pleasure in firing it up for visitors to the museum, without however taking it to a race track to display it in action. There are also many rare and significant models from other manufacturers — predominantly but not exclusively Italian — set to go under the hammer.

The collection of Museo Morbidelli artifacts also consigned to Bonhams comprises a huge array of motorcycling memorabilia including Giancarlo's own reference library, trophies, signs and other such items, and it's expected that Bonhams will devote a single entire day to the sale of this first tranche of the Morbidelli collection. Says Ben Walker, its International Director for Collectors' Motorcycles: "We're very proud to have been entrusted with the sale of this stunning collection, carefully put together over 40 years by Giancarlo Morbidelli. His restorations were exceptional — he was a stickler for detail. This is very clear when looking at what

is the largest single collection of motorcycles yet to be sold by Bonhams, and the majority of the collection will be offered at 'No Reserve,' which is extremely exciting for potential buyers. It will be a unique opportunity for motorcycle collectors and enthusiasts from across the globe to bid for some truly special lots and indeed, a piece of history. We look forward to selling this magnificent part of motorcycling history at Stafford in April." **MC**



All the contents of the Colorado Norton Works electric starter kit, laid out and ready to be installed.

Installing a Colorado Norton Works electric starter

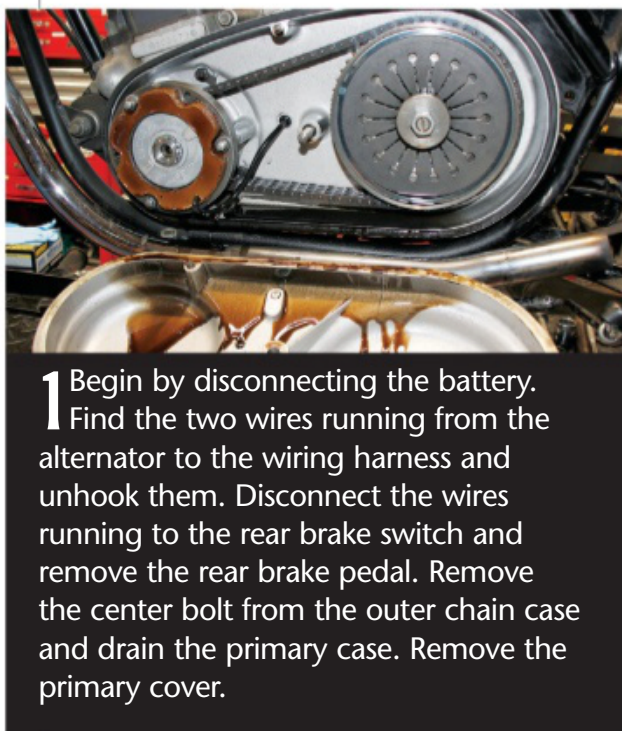
Back in 2018 we installed an Alton electric starter on editor Hall's Norton Commando. This time around we're installing the other easily sourced electric starter kit, from Colorado Norton Works. As you can see from the photo above, this is a comprehensive kit that includes a belt drive conversion in addition to the starter. Like the Alton, this kit requires you to replace the inner chain case. The CNW starter requires you to remove the stock ham can air cleaner, as the starter motor takes up some of that space. Fortunately they also sell the

K&N compact air cleaner that does fit with the starter. There's rumor of a smaller stock looking air cleaner in the works from CNW. We'll look at that when it comes out. Sometimes belt drives change the primary ratio, but this kit barely changes it, from 2.19 to 2.188. The included instructions are compre-

hensive, follow them and you'll do fine. If your battery has a few years on it, replace it, preferably with an AGM battery, the largest that will fit in your battery space. We sourced a DEKA ETX16L from our local battery store. — Keith Fellenstein

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1 Begin by disconnecting the battery. Find the two wires running from the alternator to the wiring harness and unhook them. Disconnect the wires running to the rear brake switch and remove the rear brake pedal. Remove the center bolt from the outer chain case and drain the primary case. Remove the primary cover.



2 Remove the clutch-adjusting nut and clutch rod.



3 Using a clutch spring compressor, tension the spring so you can remove the retaining clip. Remove the clutch pressure plate and clutch plate pack. You can reuse your friction plates if they are not too worn. Ours had worn spline teeth so we purchased new Barnett friction plates.



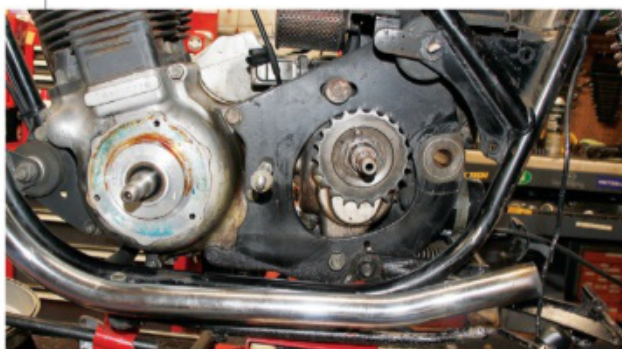
4 Bend back the lock tabs on the clutch hub nut retainer and remove the clutch hub nut with an impact driver. Remove the alternator rotor nut also. Remove the alternator nuts and place the alternator on top of the chain case while you remove the front sprocket and clutch wheel. Disengage the sprocket and chain wheel from the chain. Take the alternator in one hand and slide the chain over it and off, then hang the alternator off the center stud.



5 Bend back the locking tabs and remove the three bolts holding the primary case to the engine. We've placed the alternator back on top of the inner primary while we do this.



6 Pry the old clutch basket retaining clip out of its groove using your pointed tool of choice. You're not going to reuse this, so there's no need to be gentle. Once this clip is out and the three bolts holding the case to the engine are removed, place the alternator back in the case and remove all as a unit. If your Norton wet sumps (like mine), be prepared to replace the lowest screw back in the engine to stop the leak, or place a pan under to catch the oil.



7 Here's the machine minus the primary case. Inspect the primary sprocket and replace it if it shows signs of wear. You might also want to go up or down a tooth to change bike performance. The swing arm is off of this bike for bushing and pin replacement. I think the British say "In for a penny, in for a pound" or in this case many Pounds. The result should be a better handling bike.



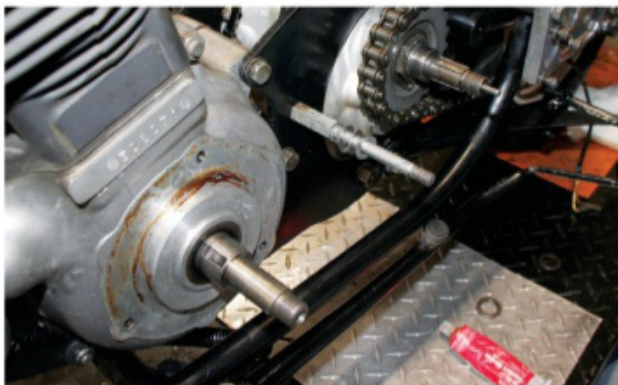
8 Back to the current task. As mentioned, the ham can has to be removed. Once that is out of the way, you have easier access to the breather stub off the back of the timing case. Unscrew it. CNW has provided a slightly shorter one that won't foul the starter motor. Replace the stock pipe with the supplied shorter pipe.



9 Place the new inner chaincase in place, along with the new gasket. Install and finger tighten at least two of the supplied screws that hold the case in place. This is so you can measure the gap between the cover stud and the back of the chaincase. You'll fill the gap with a combination of the supplied shims.



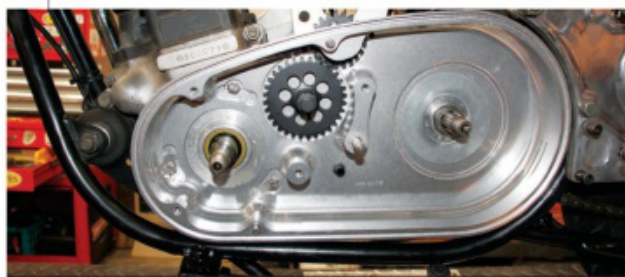
10 I used a mirror to see up under the case to show the gap, and then used feeler gauges to measure that gap. I also used a zip tie to hold the feeler gauges together to get the correct measurement.



11 Once you have the correct measurement, select shims to fill that void. You can then attach the inner case and bolt it into place. I like to seal the threads on the bolts with a little (very little) RTV silicone. Tighten down the bolts and bend over the tabs on the locking plates.



12 Carefully spread the new clutch circlip and push it into place on the mainshaft of the gearbox. The supplied circlip is designed to be used with snap ring pliers so you can spread it just enough to get it started on the mainshaft. It will click into place when home in the slot cut for it. Next you can place the backing washer over the circlip.



13 Remove the blue painter's tape covering the bearing. Take the intermediate gear assembly and determine which end fits that bearing and press it into place in the inner case. Carefully remove the washer and gear from the shaft end projecting out from the case. Take note of the orientation of the thrust washer on the end of the shaft. Later when you assemble it back to the shaft you will need to be sure the shoulder of the washer is facing you.



14 Assemble the clutch basket over the mainshaft splines and push it home against the retaining washer. Spin it by hand listening for any contact between the basket and the inner chaincase. If there is interference, you will need to add shims until there isn't.



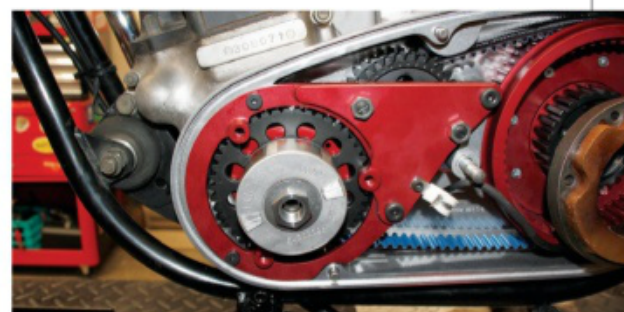
15 Fit the woodruff key into the crankshaft. Taking the belt, front pulley and clutch basket as a unit, fit the belt drive assembly onto the crankshaft and gearbox mainshaft.



16 Adjust the belt tension using the gearbox adjuster until the bottom run of the belt can be deflected up to the bottom of the alternator grommet. In this case, a little too loose is better than a little too tight. Once you have the setup to your liking, assemble the intermediate gear on the splines, meshing it with the gear on the crankshaft, and place the thrust washer over the end of the intermediate shaft, with the shoulder facing you.



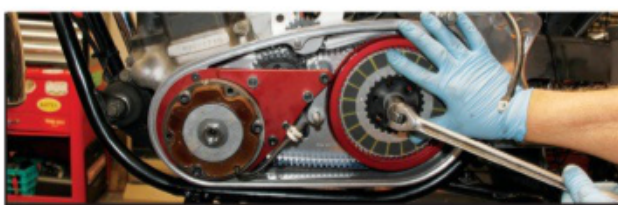
17 Remove the painter's tape holding the bearing in the alternator carrier and bolt the alternator carrier to the inner case using the supplied bolts and a little blue Loctite. Test the assembly by spinning the gear exposed at the top of the inner case. It should turn easily clockwise and not at all counterclockwise.



18 Insert the woodruff key for the alternator rotor and fit the rotor on the end of the crankshaft. Using the supplied belleville spring washer and nut, tighten the rotor nut until you just flatten out the belleville washer. A strap wrench (not shown) can help hold the rotor while you do this. Also at this time feed the alternator leads through the grommet in the chain case in preparation for reconnecting them to the main harness.



19 Proper gap between rotor and stator is important, I use four brass shims of .008-inch-thickness to help set it. Once you have the gap set all around, tighten up the mounting screws. Then remove one at a time and apply a little blue Loctite to the threads and tighten them.



20 Insert the clutch plates, plain and friction, beginning with the extra plain plate supplied. The extra plate increases the stack height, making a much easier clutch pull at the lever. Holding the plates together with your spare hand, tighten the clutch hub nut until you just flatten the supplied belleville washer. Attach the clutch pushrod seal to the exposed threads of the mainshaft, using a small amount of blue Loctite for security. Refit the pressure plate and diaphragm clutch spring.



21 A nice combination starter/kill switch comes with the kit, mount it inboard of your throttle and run the wires alongside the existing wires and into the headlight bucket.



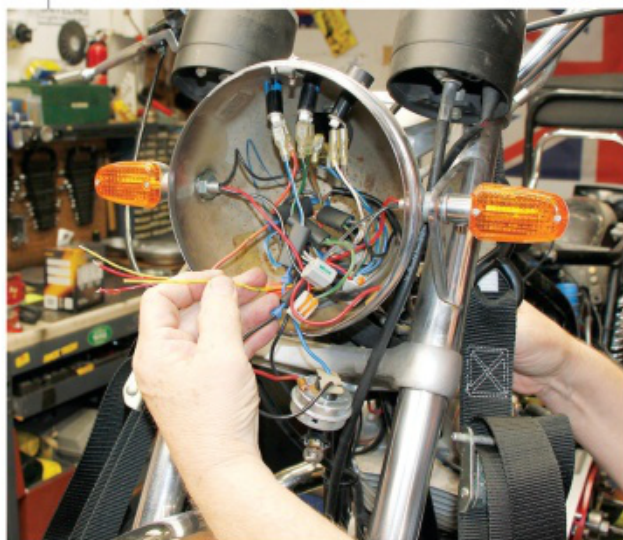
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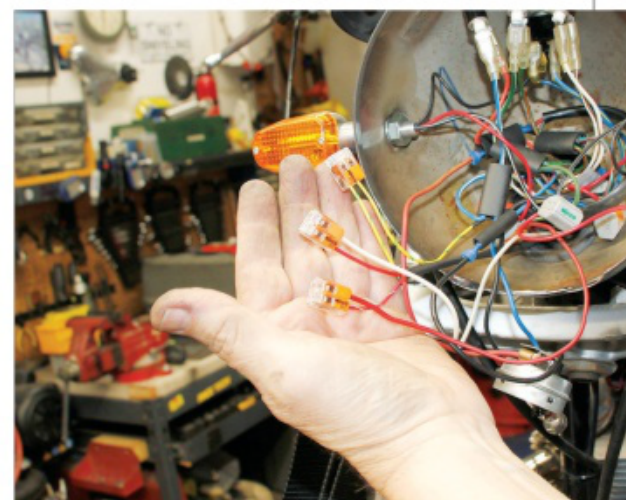
HOW-TO



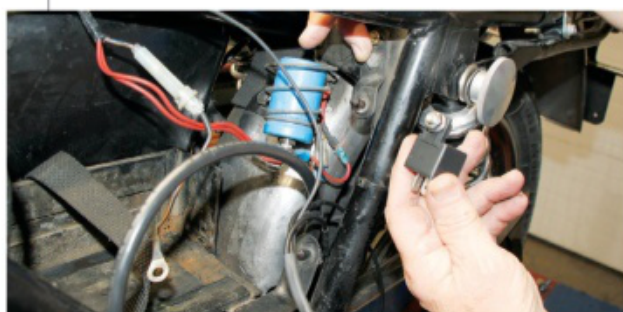
22 Now is the time to lay out the wiring harness supplied with the kit alongside the frame backbone and run the long single wire into the headlight bucket.



23 For the kill switch, you'll need to be able to interrupt the power to the ignition. In our case that meant disconnecting the power wires and running long leads from the splice into the headlight bucket where we can connect them to the kill/starter switch.



24 Connect the yellow/green wires together with the supplied Wago connectors. Connect one of your ignition power wires to the red lead from the kill switch and connect the other to the red/white wire.



25 Mount the starter relay behind the rear downtube, using the supplied stainless bolt through the lower screw of the side panel mount. This bolt is longer than stock to accommodate the relay bracket. This step can take a little of what the British call "fettling," it may be easier if you remove the rectifier, mount the relay and then reinstall the rectifier. Connect the wiring harness plug to the relay and route the harness behind the battery carrier.



26 Place the starter motor loosely into its place on the inner case, meshing the pinion with the gear, and connect the solenoid wire (red spade connector) and the starter motor connector (ring connector). Tighten the ring connector but don't overtighten it, you don't want to spin the wiring stud inside the starter. Route the oil line from the rocker feed. Then fasten the starter to the inner case with the allen bolts and decorative cover supplied.



27 Use the shorter breather stub, 90-degree elbow and pipe to connect the timing case breather to the breather hose running to the oil tank.



28 Hook the battery to the main cables, paying careful attention to the polarity of the wires. This one was positive ground, so the thick cable from the back of the primary case went to the positive terminal of the battery. Tickle the carbs, turn on the key, press the starter button and be amazed at how fast it starts.



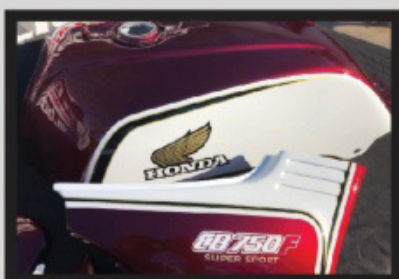
29 There is one more task to perform and you have to be very careful doing it.

30 There are two screws and locknuts on the alternator carrier. The screws are captive spring balls and they are there to stop the intermediate gear from turning all the time while the engine is running. These have to be adjusted with the engine running, thus the extra care needed.

Start with the engine off, back off the locknuts so you can screw in the spring balls. With the engine running, turn both screws in 1/4 turn at a time until the idler gear just stops turning. Stop the engine and use the locknuts to lock the screws and then check your work. That's it. All done!

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Parts and passion

Working on a friend's recent "vintage" Japanese purchase got me wondering if "true" classics like the Norton Commando and Triumph Bonneville are easier to own than we acknowledge. No question they can have their share of mechanical gremlins and dodgy electrics, but compared to the array of more "advanced" machines that followed in their wake, mostly from Japan, they might just be the easiest classic bikes to keep on the road. Or at least to buy parts for.

The problem is, because of their value we tend to relegate them to weekend warrior status, prized jewels we haul out for group rides or a Sunday run to the local pub. If you're new to the classic scene you might not be ready to pound down \$7,500 to \$10,000 — or more — to get one of these recognized classics, and then there's that maintenance thing; they definitely ask more of the owner than the average Honda or BMW.

Regular readers might recall Jean Denney's article back in the September/October 2019 issue recounting her experience as a new rider taking the basic rider's course. With her license secured and following some real-world street time on my

trusty '76 Suzuki GT185, Denney, group editor of sister publications *Mother Earth Living* and *Fermentation*, made the plunge into motorcycle ownership. Immersed by association into the classic bike scene, she was looking for something with classic flair, but daily usability. If you've tried to navigate that same road you know that it's easier said than done, so when Denney lucked onto a nicely preserved 1978 Honda CB400T Hawk, she jumped at it. An affordable, easy-to-ride standard, the Hawk is a great bike, and this one, garage-kept with just more than 6,300 miles on the clock and a \$1,000 price tag, seemed like a bargain.

And it was. Cosmetically it's maybe a 7 or 8, and mechanically it's close to perfect. The engine lights up readily and spins freely, the 360-degree crank providing nice torque characteristics even if the little twin produces only something like 36 horsepower. The transmission is smooth and snatch free, the brakes are perfectly adequate, and the suspension, despite being short on travel and a bit soft — like just about every Japanese bike of the era — works well enough. It's mostly a winning combination, and one that saw Honda produce tens of thousands of

the little twins up through the early '80s, by which time the 395cc twin was bored to 447cc for just a bit more *oomph*.

It's pretty much an ideal everyday classic, except for a snag that makes finding parts for it, most recently a replacement exhaust cross-over pipe and mufflers, something of a challenge; the Hawk's lack of enthusiast appeal.

A solid performer in the market, the Hawk wasn't exactly an enthusiast's machine. Its success turned on the fact that it was easy to buy and easy to own. It was a leisure machine for the leisurely owner, a commodity, something to be bought, used, and then replaced by the next shiny thing when its looks became dated. The result is that 40-odd years later, parts beyond basic wear items like wheel bearings and brake linings are hard to find.

Certainly, there are specialists who inventory some of the more arcane bits you might need, but if you stack up parts availability for the Hawk next to a Norton Commando or vintage Triumph Bonneville, it's abundantly clear what enthusiasm means to model mortality. Norton made something like 70,000 or so Commandos. Honda never reported total production of the Hawk or its variants, but it was easily three times that. Yet try to find OEM-style replacement exhaust parts for a Hawk. Good luck. For a Commando? You have your pick of suppliers. Carburetors? Engine parts? Ditto. Everything you could ever need for your Commando is still available, and in fact still being made, much of it by Andover Norton, heirs to the Norton parts concession.

It's all down to the simple fact that bikes like the Commando and Bonneville catered to the enthusiast. They inspired — and still inspire — enthusiastic and devoted ownership, which in turn inspires enthusiastic and devoted support, something that bikes like the Hawk didn't do. That doesn't mean the Hawk's a bad bike. Emblematic of its time, it's a well-engineered machine that will be coveted by some for personal reasons, but it will never achieve the level of passionate ownership of bikes like the Commando or Bonneville. Ride safe.

Richard Backus/Founding Editor



A great bike with classic flair, a Honda CB400T Hawk should be easy to keep on the road — if you can find the parts.

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“On the first test ride that bike took off like a scared cat.”

Positive or negative?

Q: How would I determine if my 1973 Triumph TR7RV is positive or negative ground? I assumed that it was positive ground, but I hooked it up that way and it blew the 30-amp inline fuse on the negative cable. I do not know a lot about these British bikes. Thanks.

G. Manning/via email

A: First off, use a 15-amp fuse, as the ratings are different between British and U.S. fuses and a 30-amp British fuse as called for in the rider manual is a 15-amp American fuse. Next, the fused negative cable goes on the negative post, the positive post (red wire usually) goes directly to ground. If it still blows fuses after these changes, there is something else wrong with it. All this advice assumes it's got the standard plate rectifier and Zener diode voltage regulator. If it has an aftermarket regulator/rectifier combo it may be a little more difficult to troubleshoot. Let me know if this fixes the problem.

Fork leg thoughts

Q: I am putting my 1970 Triumph T120 fork legs back together after some work on them. I want to make sure that they don't leak where the dust covers mate with the lower legs (at the threaded junction). A friend said any good silicone sealer would work. Do you think Permatex High-Temp RTV Silicone Gasket Maker would be appropriate? I just happen to have some in my shop. I guess the issue is whether that would make it too hard to undo them down the road? I enjoy your column. Keep the rubber side down.

Crocker Bennett/via email

A: I too would be concerned about disassembling them the next time. If you go this route I'd only smear a little on a few threads, not the entire threaded portion. I wonder if Anti-Seize would work? It's a heavy grease. Kill two birds with one stone perhaps?

Kawasaki GPz550 suggestions

A: It looks like I'm going to let my readers do the bulk of my work this



Ready to take your classic queries: Tech Editor Keith Fellenstein.

issue. On the subject of the Kawasaki GPz550 from November/December 2019 issue, I heard from a few of you with helpful advice.

From: Vincent Palazzo. “It may not be carburetion. An ignition control module can fail in such a manner that you still get spark, but it won't advance or retard. His bike is less sophisticated in that it still has a mechanical advance on the right crankshaft end. The weights and/or rotor may be rusted/stuck in the retarded position. Since it won't rev, I'd be willing to bet spark timing is not advancing. This will cause all the symptoms Mr. Herchenroder noted.”

From: Tom Batchelor of Moto-Resto in Florida. “I think I have a suggestion for the other Keith (Keith Herchenroder) who wrote in about his GPz550 carb issue in the November/December 2019 Keith's Garage column. I'm guessing you may still have his contact info. Please tell him he likely needs to shorten the CV carb diaphragm springs in regards to length. This was a mandatory operation on my Bandit 1200 Stage 2 setup from Holeshot Performance, and it's required on a lot of other intake/exhaust modified CV carb bikes. Tell him I can't give him an exact amount to cut them down to; however, what I'd do is start with 12mm off the length and try that; and go up to 25 mm. But I'd have to know the nominal length of the spring first to make an educated suggestion.”

Suzuki TS185 suggestions

A: A number of readers wrote in to help me with the question in the November/December issue about the Suzuki TS185. I'll let them add what I missed in my troubleshooting. Thanks for the help, I appreciate it.

From: Gene O'Meara Jr. “I read the magazine cover to cover like most readers. I noted something that caught my attention in your column, regarding jetting issues for a reader's TS185 and its tendency to blubber at 5/8 to full throttle. I just thought I would pass on my experience renovating a 1975 Suzuki TS250. It was having similar symptoms, and after removing and working on the carburetor more than a dozen times, I finally decided to buy a second carb from an eBay source. Sure enough, the bike exhibited the exact same symptoms and I was forced to open my thinking to other areas. Eventually I found the problem: a collapsed spark arrestor in the rear of the exhaust pipe, causing back pressure. The bike could not breathe properly. It was a little torpedo-shaped thing with twisted metal to deflect the sparks. The welds had broken after 40-plus years. So I tacked it back together and re-assembled it, and on the first test ride that bike took off like a scared cat.”

From: Tim Sickel. “In reference to the problem Steve is having, it could be that the spark arrestor in the back of the muffler needs to be cleaned or removed. Having owned three of these I found this to be a recurring issue. We would remove them and it did make a big difference in the way they ran.”

From: Vincent Palazzo. “Regarding the Suzuki TS185 blubber above 5/8 throttle. I suggest checking and/or replacing the jet needle and needle jet. On old bikes these items wear due to the constant back-and-forth movement of the needle. The hole in the top of the jet needle is probably elongated, with corresponding wear on the needle jet. This causes a rich condition above 1/2 throttle that you can't jet out unless you go so lean that you will cause the engine to seize.

Email questions to keithsgarage@motorcycleclassics.com

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Vanson Leathers Teton Touring Coat

Although a little warm for those 100-degree days, my Vanson Teton Touring Coat is perfect for the three cooler seasons here in east-central Kansas. The coat is beautifully made, using materials that I had no idea could still be sourced in such high quality. The black Firenze Leather outer material is nothing short of confidence-inspiring should an unexpected slide occur, and the customizable placement of CE elbow and shoulder armor offers added security. The fit and finish is every bit as impressive as the jacket's European-style, hip-length and many dodads and it positively suits my dual-sport/adventure riding style.

Things I like: The jacket has pockets and vents galore! I had no trouble finding an intake and exhaust vent combination to keep me comfortable on my daily commute and on 150-mile or more trips into the Flint Hills or down to Wichita into the low 80s. I really like the Teton's hip length as it keeps the torso on my 6-foot 4-inch frame nicely covered in different positions. Double leather at the elbows and shoulders, while adding a bit of stiffness, are a clear indication that

this is one rugged coat that's willing and able to take the abuse. I particularly like the waist cinch because it allows me to make more room for a thermal vest or sweater in the winter (I've ridden comfortably with this coat down to 28 degrees F) or tightens up when wearing a T-shirt on the hot days. Another great feature of the Teton, which makes it super comfortable in warmer weather, is the RamAir sleeve vents that coupled with the rear vent flow a lot of fresh air. The four deceptively roomy and versatile outer pockets and two inside provide plenty of room for your wallet and phone plus a bit of gear and snacks without needing a backpack or bag. Thanks to the storm and wind flaps, the jacket will block much of the inclement weather when encountered. I have not ridden with it in a hard rain, but 25 miles of heavy sprinkles left me mostly dry — not bad without any other rain protection. The zippers and snaps are a joy to use compared with hook-and-loop systems

and like the rest of the coat are of impressive quality.

Things I don't like: As much of a safety gear guy as I am, I would have loved to see this coat with some reflective or high-visibility components built in. That's easy to remedy though by wearing a vest over it. I love that the Teton will accept a back pad, but for the price, it could've been included. And a small quibble that speaks to the high quality: The jacket is stiff and takes a bit to break in. As a leather wearer, I both love and hate the break-in period. I love that the leather is so thick and strong that it needs breaking in, and I hate that I can't always wear a new coat or pair of boots all day long, the first day.

Last thoughts: Bottom line, I adore my Vanson Leather Teton Coat. It packs a lot of performance in a premium package that's entirely worth it. In today's throwaway world, it's truly compelling to find an heirloom quality garment (\$749) that will easily outlast me and should have one or two more lives barring some total disaster. And what a partner to have on your team should disaster strike as the Teton will take the brunt of the beating so that you don't. — *Hank Will*



ScorpionEXO Covert Ultra Jeans

There is a lot to be said for a high quality riding suit or pants — just ask anyone who has ever gone down on a bike! But sometimes you want to look just a little more “normal.” Luckily, the plethora of riding jeans that have hit the market the last few years gives one plenty of options for more casual riding attire.

I looked to ScorpionEXO when it was my time to join the club. And they delivered perfectly with a pair of Covert Ultra Jeans. Scorpion uses a Cordura/Kevlar single layer weave that reduces bulk and adds breathability while providing seven times the abrasion resistance of typical denim. Adjustable armor pockets at the knees and hips allow you to add more protection if desired. A DWR water resistant coating helps keep you dry if you are not in a heavy rain and an integrated 3M reflective swatch at the lower hem aids visibility.

The Covert Ultras have a traditional five-pocket design with a modern, tapered fit that looks great anywhere. They come in standard waist sizes (I ordered my regular size and they fit perfectly) with regular (32-inch inseam) and tall (34-inch inseam) lengths. I found them to be plenty comfortable for putting in several hours on winding back roads. Yet, when we stopped for lunch, the average observer would think I was wearing a plain old pair of jeans. Exactly what I was looking for when I'm not out trying to string together 300-mile days! — *Rod Peterson*

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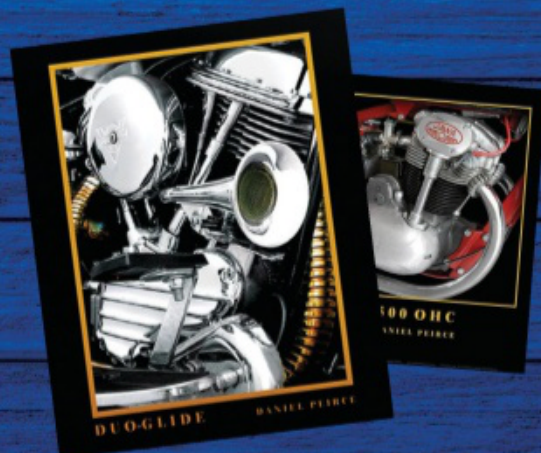
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THE MUSEUM OF FLIGHT, SEATTLE, WASHINGTON

Seattle's Museum of Flight, located at the southern end of Boeing Field, is a short 15-minute ride from downtown Seattle. In my opinion it's the best thing to see in Seattle and you don't have to enter the downtown area to do so. The Museum of Flight came about as the result of the Pacific Northwest Aviation Historical Foundation's 1965 recovery and restoration of a 1929 Boeing 80A-1 discovered in Alaska. One thing led to another, and today, the Museum of Flight is the largest private air and space museum in the world.

The name is understated, as the place is a museum, a restoration center, an educational center and one of the world's premier repositories of aviation history. It consists of several halls and displays. The large T.A. Wilson Great Gallery (arguably the Museum's nucleus) is, by itself, a stunning aeronautical display standing three stories tall and windowed on three sides to admit natural light. It showcases 39 magnificent civilian and military aircraft spanning a century of flight, including several suspended from the ceiling, an SR-71 spy plane, fighters, helicopters and more. The Red Barn is the original

Boeing aircraft factory, moved upriver by barge from its original 1909 location and restored to better than original splendor. There's the J. Elroy McCaw Personal Courage Wing, with 28 World War I and II aircraft. The Restoration Center and Reserve Collection is a working aircraft restoration facility, with three to five aircraft undergoing restoration at any time. The Charles Simonyi Space Gallery highlights the space shuttle program, including seat time in a full-fuselage shuttle trainer. The Vietnam Veterans Memorial Park has a pristine B-52G with a pedigree that includes Operation Linebacker II. The T. Evans Wyckoff Memorial Bridge is an overhead walkway from the main complex to 19 aircraft in the Aviation Pavilion (including the Concorde and the first jet-powered Air Force One). There's an air traffic control tower exhibit overlooking Boeing Field that offers a glimpse into air traffic control activities. The Harl V. Brackin Museum of Flight Library and Archives holds 66,000 books, approximately 100 aerospace periodicals, and one of the world's largest collections of aviation photographs and other materials (including the original Wright Airplane

Company collection). The Museum of Flight also has special exhibits on a regular basis. During our visit, we saw the actual Apollo 11 capsule, along with other lunar exploration artifacts and displays. More good news is that you won't have to leave the facility to eat; there's a good restaurant in the Museum.

There's obviously more to the State of Washington and Seattle than the Museum of Flight. I've ridden Washington extensively and I can tell you that Washington is one of the world's best kept riding secrets. One of my favorite routes is along the Columbia River Gorge (see *Motorcycle Classics*, July/August 2017). The canyons along the Columbia River coming down from Canada after crossing into Washington (along either SR 21 or SR 25) are amazing and offer great riding. Then there's the Mt. Rainier National Park loop (Forest Road 52, SR 706, SR 123 and US 12). The riding is seasonal, and when the weather cooperates, Washington is a bucket list destination. Allow at least a full day for exploring the Museum of Flight and its many exhibits. We spent the day there and felt we could have spent another; it's that extensive. — Joe Berk

THE SKINNY

What: The Museum of Flight, 9404 E. Marginal Way South, Seattle, WA, 98108-4097. (206) 764-5700. General admission: \$25. Senior discounts available.

How to Get There: Take I-5 south out of Seattle for 13 miles, grab Exit 158, and follow the signs. Better yet, approach Seattle from the south on I-5, and visit the Museum of Flight without entering the downtown Seattle area.

Best Kept Secrets: If you are in Seattle and you want to see something different, don't miss the Chuhily blown glass gallery just below the Seattle Space Needle. And as mentioned above, the riding in Washington is amazing.

Avoid: Don't leave home without checking the weather first (it can get cold, wet, and icy up there in the Pacific Northwest). I'd avoid downtown Seattle (it's densely trafficked, and while there are many fine restaurants and more than 150 microbreweries, things are expensive and the city has lost a lot of its glamour).

More Photos: bit.ly/flight-museum

More Info: museumofflight.org



The actual Apollo 11 capsule, on display at the Museum of Flight in Seattle, Wash.

CALENDAR MARCH/APRIL

Don't miss these upcoming events!

3/6-7 Back for its 10th year, check out the Modern Classics Motorcycle Show. This year will feature a great collection of bikes from the 1960s through the 1990s. Check out the Friday Night Modern Classics Kickstart Party from 7-10 p.m. at the show's home, Martin Motorsports in Boyertown, Pennsylvania. On the web at martinmoto.com

3/6-15 This year marks the 79th Anniversary of Daytona Bike Week, which runs March 6-15, in Daytona Beach, Florida. The racing kicks off on Saturday night, March 7, with the Daytona Supercross. The American Flat Track series Daytona TT and the 2020 Daytona 200 both take place on Saturday, March 14. For more info, schedules and specific locations of activities visit the Bike Week site. On the web at officialbikeweek.com

3/14-15 Visit Rapid City, South Dakota, for the 32nd Annual Black Hills Motorcycle Show, March 14-15, at the Rushmore Plaza Civic Center. There are more than 20 judged classes, plus a People's Choice award. On the web at blackhillsmotorcycleshow.com

4/3-4 Join the Possum Motorcycle Gathering at the Sevier County Fairgrounds, in Sevierville, Tennessee, April 3-4, 2020, in the heart of the Smoky Mountains. The show is open to all motorcycles 35 years and older. Several classes will be judged. It's free to display your bikes on the fairgrounds. No charge for spectators. Swap meet spaces are available but are restricted to motorcycle parts and related items. Limited campsites are available on site. The show is held in conjunction with the Sevier County Antique Tractor and Engine show at the Sevier County Fairgrounds. Come ride your classic on some of the best motorcycling roads in the U.S. Tons of attractions in the area for the whole family. Donations will go to support the area hospice. On the web at possummotorcyclingathering.com

4/24-26 Head to Willow Springs International Raceway in Rosamond, California, for the Corsa Motoclassica, April 24-26. Rounds 7 and 8 of the AHRMA Historic Cup Roadrace Series will be Saturday and Sunday. There's a vintage bike show on Saturday and a swap meet both days. On the web at willowspringsraceway.com

4/25 The Washington Vintage Motorcyclists are putting on the second Northwest Motorcycle Classic, a classic and vintage motorcycle expo on Saturday, April 25, at the Northwest Washington Fairgrounds in Lynden, Washington. There will be a vintage and classic motorcycle display, swap meet, bike auction, dealers, vendors, experts and clubs, demos and more. On the web at washingtonvintagemotorcyclists.org

Motorcycle Classics wants to know about classic motorcycle shows, swap meets, road runs and more. Send details of upcoming events at least three months in advance to lhall@motorcycleclassics.com



Visit Martin Motorsports for the 10th Annual Modern Classics Motorcycle Show.

Mar. 6-7 — AMCA 2020 Sunshine Chapter National Spring Meet. New Smyrna Beach, FL. sunshineamca.org

Mar. 6-7 — Vintage Motorcycle Alliance 9th Annual International Vintage Motorcycle Swap Meet and Bike Show. Eustis, FL. vintagemotorcyclealliance.com

Mar. 7-8 — 30th Annual Custom & Classic Motorcycle & Car Show. Colorado Springs, CO. pro-promotions.com

Mar. 8 — Walneck's Swap Meet and Show. Springfield, OH. walneckswap.com

Mar. 13-15 — 17th Annual Inland Northwest Motorcycle Show and Sale. Spokane, WA. spokanemotorcycleshow.com

Mar. 21-22 — Idaho Vintage Motorcycle Club 44th Annual Vintage Motorcycle and Bicycle Rally & Show. Caldwell, ID. idahovintagemotorcycleclub.org

Mar. 22 — 48th Annual Kalamazoo Motorcycle Swap Meet. Kalamazoo, MI. kalamazooswap.com

Mar. 22 — So-Cal Cycle Show and Swap Meet. Long Beach, CA. socalcycleswapmeet.com

Mar. 27-29 — AHRMA Road Racing at Carolina Motorsports Park, Kershaw, SC. ahrma.org

Apr. 3-5 — The Handbuilt Motorcycle Show 2020. Austin, TX. revivalcycles.com

Apr. 11 — 17th Annual Cadillac Swap Meet. Cadillac, MI. cadillacswap.com

Apr. 17-19 — AHRMA Road Racing at Streets of Willow, Rosamond, CA. ahrma.org

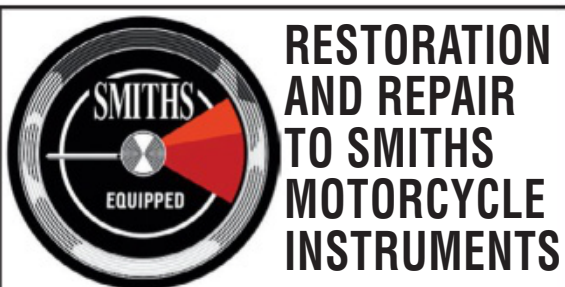
Apr. 23-25 — 38th Annual Laughlin River Run. Laughlin, NV. laughlinriverrun.com

Apr. 24-25 — AMCA National Meet Perkiomen Chapter. Oley, PA. antiquemotorcycle.org

Apr. 24-26 — AHRMA Road Racing at Willow Springs Raceway, Rosamond, CA. ahrma.org

Apr. 26 — Jeff Williams Motorcycle Swap Meet. Kansas City, MO. jwswapmeet.com

Apr. 26 — So-Cal Cycle Swap Meet. Long Beach, CA. socalcycleswapmeet.com



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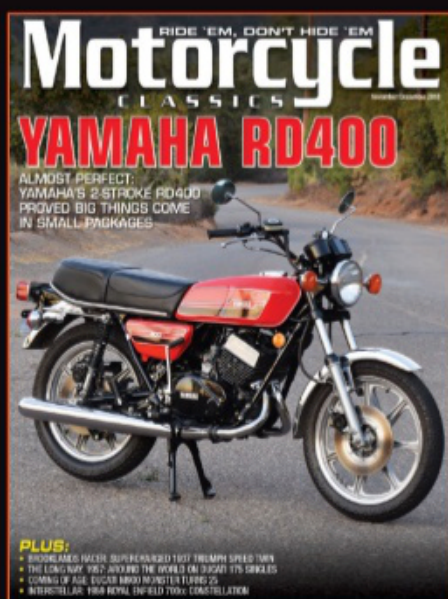


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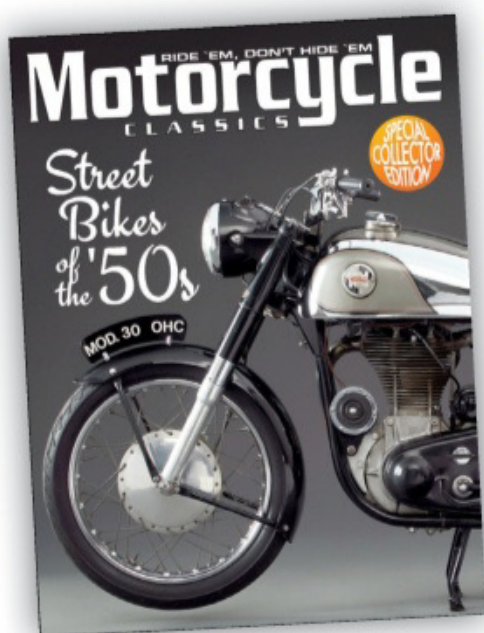
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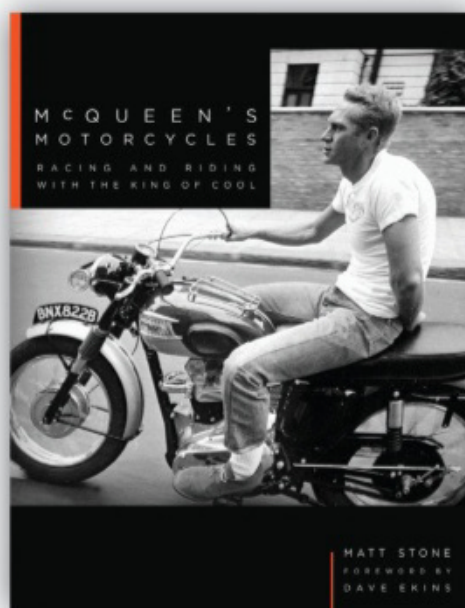


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Even 30 years after his death, Steve McQueen remains a cultural icon. This book focuses on the bikes that the King of Cool raced and collected, from the first Harley McQueen bought when he was an acting student in New York to the Triumph "desert sleds" and Huskys he desert raced all over California, Mexico, and Nevada. *McQueen's Motorcycles* reveals these highly sought-after machines in gorgeous photography and full historical context.

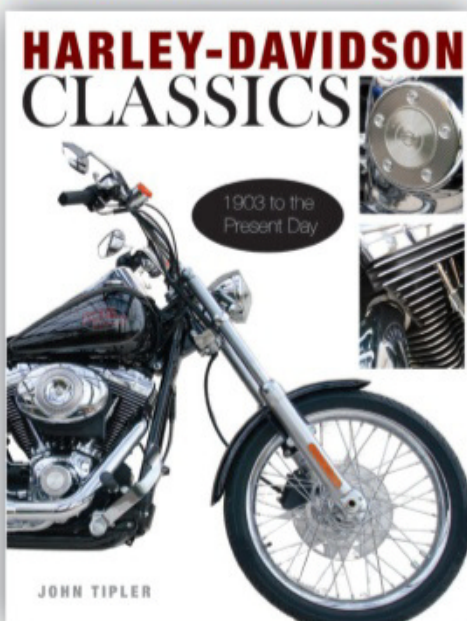
#8184 ~~\$25.00~~ \$29.75

New

HARLEY-DAVIDSON CLASSICS

No other motorcycle matches the style or sound of a Harley-Davidson, with its rumbling V-twin engines. *Harley-Davidson Classics* zooms in on more than 50 of the company's greatest creations, giving a close-up portrait of each machine. Superb double-page photos and close-up shots highlight every aspect of each motorcycle.

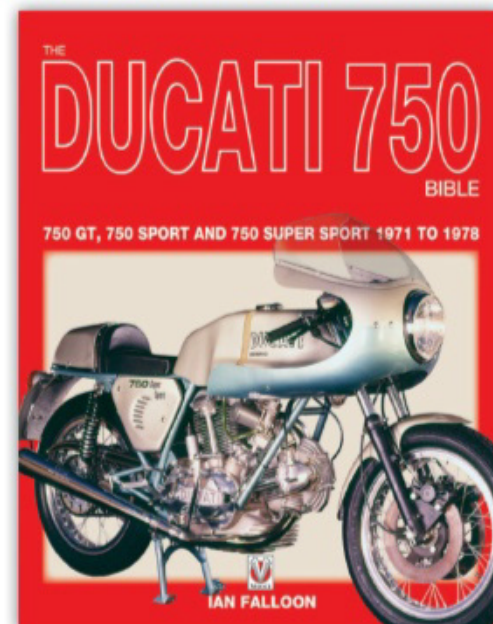
#9879 ~~\$29.95~~ \$25.46

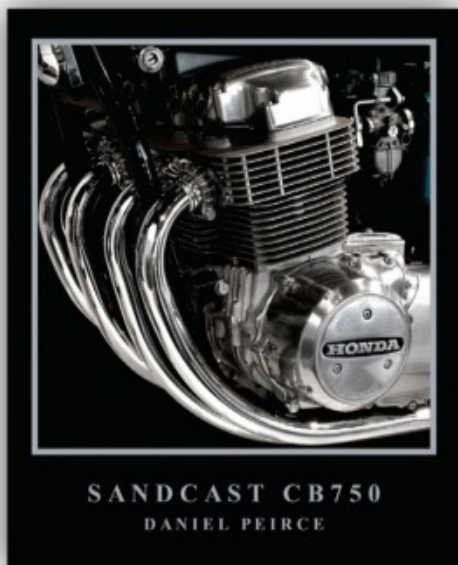


THE DUCATI 750 BIBLE

From its start in 1970, the Ducati 750 has been known as one of the best racing bikes in the industry. In *The Ducati 750 Bible*, you'll get an inside look at what made this bike so great. Starting from the very beginning, with engineer, Fabio Taglioni designing the original Ducati 750 then moving on to the Super Sport from 1971 to 1978, this is the perfect book for any Ducati lover!

#9436 ~~\$49.95~~ \$42.46





SANDCAST CB750 PRINT

This Endura Metallic print is photographically printed by professional motorsports photographer Daniel Peirce and displays the Sandcast CB750 Engine. The subtle metallic surface produces a depth and color richness unmatched by any other process. This 16" x 20" is printed on demand and signed and numbered by the artist. *Please allow two weeks for delivery.*

#3803 ~~\$69.00~~ \$62.10

MANX MOTORCYCLE PRINT

This Manx Motorcycle Print is perfect for any motorcycle enthusiast! This Endura Metallic print is photographically printed by professional motorsports photographer Daniel Peirce. The subtle metallic surface produces a depth and color richness unmatched by any other process. This 16" x 20" is printed on demand and signed and numbered by the artist. *Please allow two weeks for delivery.*

#3550 ~~\$69.00~~ \$62.10



BLACK SHADOW PRINT

This Black Shadow Print metallically displays the Black Shadow Engine on a 16" x 20" print. The subtle metallic surface produces a depth and color richness unmatched by any other process. Created by professional motorsports photographer Daniel Peirce, each print is signed and numbered by the artist.

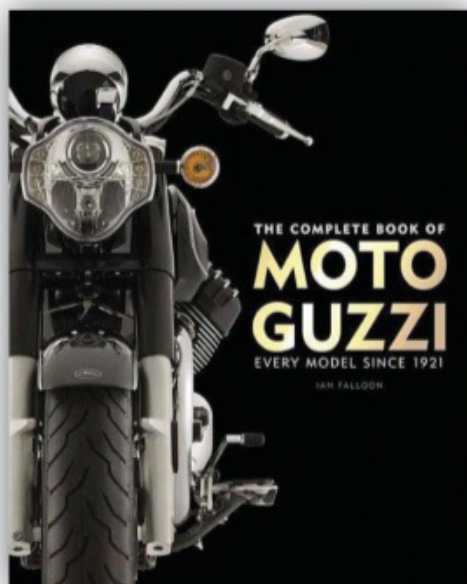
Please allow two weeks for delivery.

#3795 ~~\$69.00~~ \$62.10

850 COMMANDO PRINT

Own this unique print of a Norton 850 Commando today! This Endura Metallic print is photographically printed by professional motorsports photographer Daniel Peirce, and the subtle metallic surface produces a depth and color richness unmatched by any other process. This 16" x 20" print-on-demand metallic print is signed and numbered by the artist. Print longevity is an impressive 100 years. *Please allow two weeks for delivery.*

#3797 ~~\$69.00~~ \$62.10



THE COMPLETE BOOK OF MOTO GUZZI

The oldest European motorcycle manufacturer in continuous production, Italy's Moto Guzzi has built some of the most iconic motorcycles ever produced. Established in 1921, the company is one of the most traditional motorcycle makers and also one of the most innovative. For the first time ever, *The Complete Book of Moto Guzzi: Every Model Since 1921* collects all of these iconic motorcycles in encyclopedia form, written by widely respected Moto Guzzi expert Ian Falloon.

#8462 ~~\$60.00~~ \$51.00

MOTORCYCLE CLASSICS MESH BLACK/STONE HAT

Established in 2005, *Motorcycle Classics* quickly became a favorite read for riders everywhere. Now you can show your support for the magazine with the *Motorcycle Classics* Mesh Hat! This hat features a garment washed cotton twill front with a mesh back, a pre-curved visor, and a cloth adjustable back. Sewn onto the front of the cap is a *Motorcycle Classics* embroidered patch that features a 1967 Triumph T120 Bonneville. Whether you're in the garage working on your bike or just out for a night in town, this hat is the right one for the job.



#9689 ~~\$16.99~~ \$14.44



MOTORCYCLE CLASSICS SHOP TOWEL

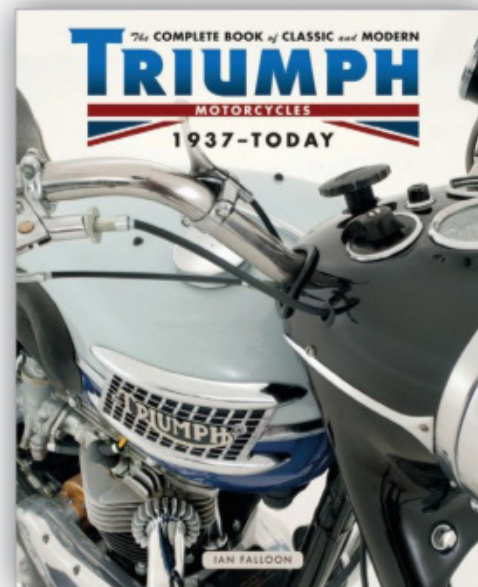
Ideal for any cleaning needs, our industrial-strength shop towels are clean and absorbent. Made from 100 percent cotton, these 14-inch-long by 14-inch-wide towels are great for use in the automotive and industrial industry.

#8747 ~~\$3.00~~ \$2.55

THE COMPLETE BOOK OF CLASSIC AND MODERN TRIUMPH MOTORCYCLES

Written by respected Triumph expert Ian Falloon, this guide collects all of the motorcycles from this iconic brand in a single volume. All of the major and minor models are covered, with an emphasis on the most exemplary, era-defining motorcycles, such as the Thunderbird, Tiger, Trophy, Bonneville, and new machines such as the Speed Triple, Thruxton, and Daytona 675. This is a book no Triumph fan will want to be without!

#7667 ~~\$50.00~~ \$42.50

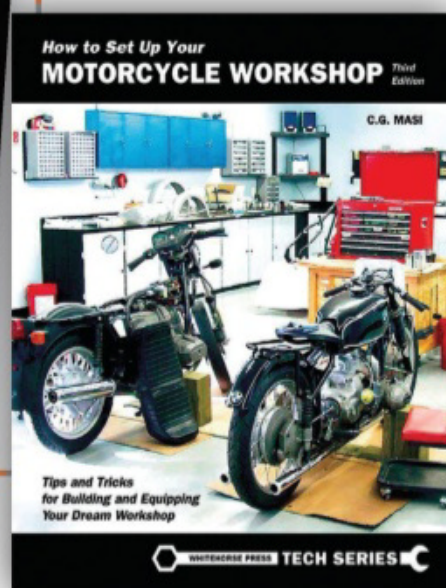


New

HOW TO SET UP YOUR MOTORCYCLE WORKSHOP

From a corner of the garage set up for routine maintenance to a dream shop housing classic machines, *How to Set Up Your Motorcycle Workshop* helps motorcyclists make the most of their available space. Packed with practical advice, author C.G. Masi walks you through designing, building, and equipping the workshop you need, whether you plan to restore, repair, and maintain your own bikes or hope to open a small commercial facility.

#9985 ~~\$27.99~~ \$23.79



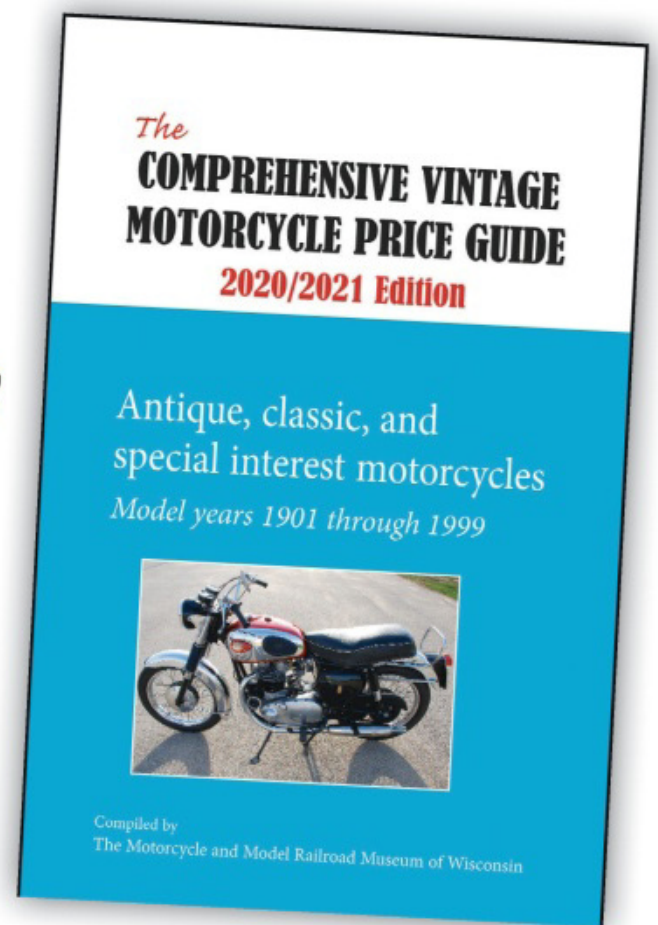
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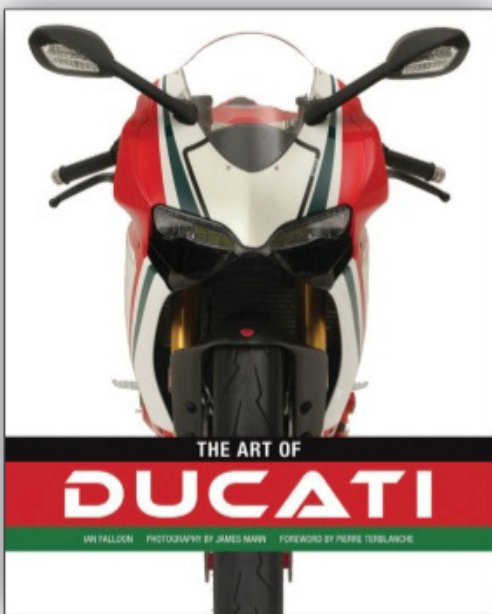
New

THE COMPREHENSIVE VINTAGE MOTORCYCLE PRICE GUIDE 2020/2021

The 17th annual *Comprehensive Vintage Motorcycle Price Guide* captures nearly 100 different marques and 120,000 prices in six different grades across 432 pages for the 2020/2021 season. Learn how to properly grade and apply the right condition to a motorcycle through pricing that is determined by real-time sales data from auctions, sales, shows, swap meets, dealer sales, and more. Plus, vintage motorcycle market analysis is included. Find out how to properly grade and apply the right condition to American, Japanese, European, and Asian marques! Whether you're looking at buying an old bike or selling the one that's been sitting in your garage, this is the guide you want to turn to.



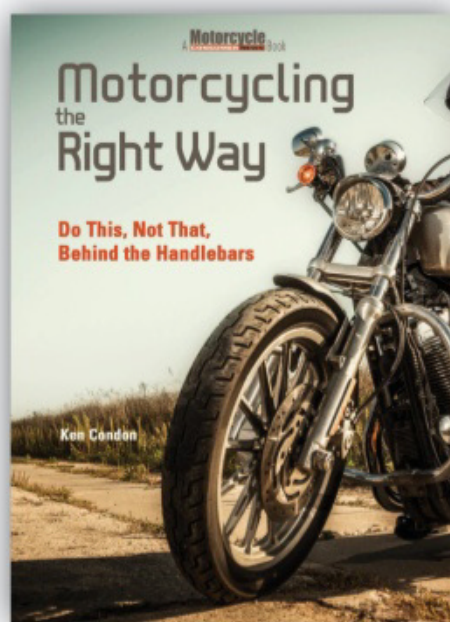
#9929 ~~\$17.95~~ \$17.05



THE ART OF DUCATI

From the single-cylinder bikes of the 1950s and 1960s to the bevel-drive twins of the 1970s and early 1980s to the high-performance bikes of the 21st century, *The Art of Ducati* presents a gorgeously illustrated, wonderfully curated review of more than six decades of Ducati excitement. *While supplies last.*

#7358 ~~\$60.00~~ \$50.00



MOTORCYCLING THE RIGHT WAY

Motorcycling the Right Way is the perfect book for beginners, returning riders, and experienced riders who are interested in learning more about the dos and don'ts of motorcycling. Along with safety, you will learn multitasking, sensory intelligence, risk smarts, visibility, and more!

#9359 ~~\$24.95~~ \$21.21

STREET RIDER'S GUIDE

Street Rider's Guide spells out safety tactics for motorcycle riders looking to get the most out of their favorite hobby for as long as possible. Covering topics from A to Z, this is the go-to handbook for motorcyclists who want quick solutions to commonly encountered obstacles and road challenges, and who want to ride safer through improved situational awareness. *While supplies last.*

#9355 ~~\$17.95~~ \$12.57

Great Price!



CLASSIC MOTORCYCLES

Written by noted motorcycle author Patrick Hahn, *Classic Motorcycles* presents the history of motorcycling as told through the most significant, iconic, classic motorcycles of all time, with both period photography and modern portrait photography. You'll drool over the 1933 Matchless Silver Hawk, and you'll want to tear out the page displaying the 1956 Triumph Thunderbird and frame it. Prepare to be in awe of the undeniable classic motorcycles in this collection.

#8185 ~~\$50.00~~ \$42.50



MOTORCYCLE CLASSICS STAINLESS STEEL WATER BOTTLE

Whether you're heading to work or getting ready for a long ride, this *Motorcycle Classics* Stainless Steel Water Bottle will keep your drinks cold for the whole trip! This 17-ounce bottle is double-walled, 18/8 stainless steel with vacuum insulation, and it will keep drinks hot for 12 hours and cold for 48. *While supplies last.*

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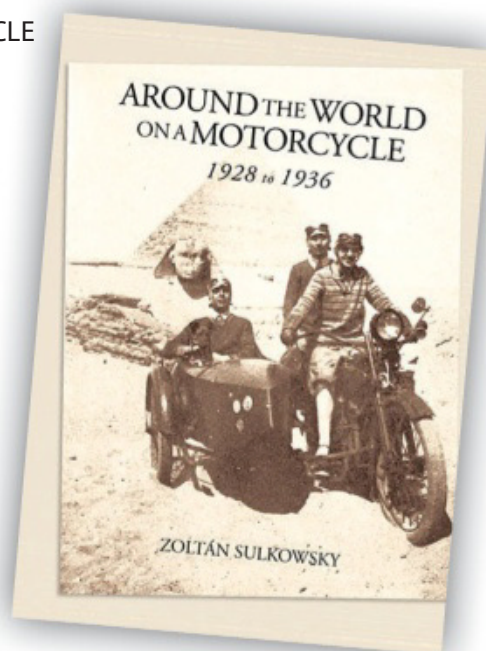
DUCATI BEVEL TWINS 1971 TO 1986: AUTHENTICITY & RESTORATION GUIDE
If you are a Ducati enthusiast, *Ducati Bevel Twins* is the perfect addition to your library! Although built in relatively small numbers, there are many individual model differences that can make their authentic restoration difficult. This comprehensive book features a complete historical background, detailed descriptions of individual model differences, restoration tips and guidance based on years of practical experience, correct information for decal placement, guides to colors and paint codes, and advice for finding the right motorcycle.

#9457 ~~\$89.95~~ \$76.46

AROUND THE WORLD ON A MOTORCYCLE

The year was 1928 when two young Hungarians decided to travel around the world on a Harley-Davidson motorcycle with sidecar. This account gives a very clear-eyed view of the world in the 1930s – the two experienced the riches of sultans, witnessed primitive cultures in remote villages, traveled through wilderness, and traversed roads of all descriptions. This intelligent book offers a unique world view between the World Wars, flavored by the great diversity of cultures and the wide variety of human life.

#8347 ~~\$24.95~~ \$21.21



THE WOMEN'S GUIDE TO MOTORCYCLING

Author Lynda Lahman, herself a motorcycle owner and rider, provides a comprehensive look at motorcycling techniques, street smarts, and safety concerns while addressing female-specific challenges as well as issues that all bikers face from a female point of view. Lahman provides advice about choosing a bike, proper maintenance, types of riding, bike clubs, and more.

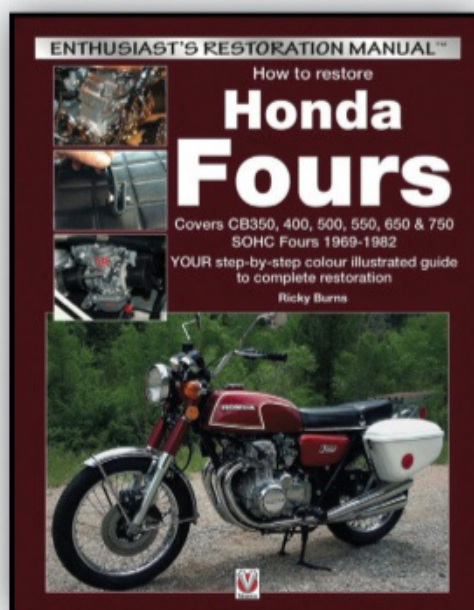
#8248 ~~\$24.95~~ \$17.47

Great Price!

HOW TO RESTORE HONDA FOURS

In 1969 the Honda Motor Company launched a motorcycle that many consider to be the world's first Superbike. All with their own characteristics, they proved to be reliable and smooth-running, and even today they can offer reliable transport on modern roads if restored correctly. Now with some examples more than 40 years old, many enthusiasts wish to restore these classic machines. *How to Restore Honda Fours* has been written to guide the enthusiast through his or her restoration of these fine classic motorcycles. *While supplies last.*

#7760 ~~\$59.95~~ \$50.96



MOTORCYCLE CLASSICS NAVY VINTAGE SHORT-SLEEVE T-SHIRT

This *Motorcycle Classics* T-shirt will quickly become an old favorite! Made of super-soft material, this shirt is perfect for wearing on your rides or when you're working on your bike. Emblazoned with an outline of the 1960 Triumph 5TA Speed Twin and our slogan, "Ride 'Em, Don't Hide 'Em," this shirt announces to everyone your love of motorcycles and *Motorcycle Classics*! The navy blue short-sleeve T-shirt is made of slightly heathered, medium-weight cotton-poly jersey fabric for a durable yet unbeatable feel.



#9424-9427 S-XL ~~\$15.00~~ \$13.99

#9428 2XL ~~\$17.00~~ \$14.99

#9429 3XL ~~\$18.00~~ \$15.99



KAWASAKI W, H & Z: THE BIG AIR-COOLED MACHINES

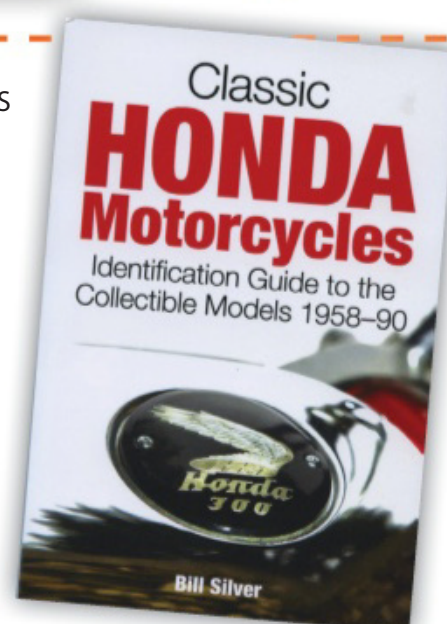
Kawasaki W, H & Z is the story of the air-cooled "big" Kawasaki bikes in definitive detail, researched and written in Japan with the full cooperation of the factory. This series of models put the Kawasaki company on the map during the 1960s and 1970s, helping it survive a difficult era that saw hundreds of Japanese motorcycle makers reduced to just four.

#9594 ~~\$50.00~~ \$42.50

CLASSIC HONDA MOTORCYCLES

Honda made its mark on the motorcycle world with small, affordable bikes, and grew well beyond that to create some of the most important performance machines ever built. Today, these bikes are increasingly coveted by collectors and enthusiasts. This guide to the collectible Hondas gives prospective buyers a leg up on the current market for groundbreaking classics.

#6428 ~~\$40.00~~ \$34.00



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PARTING SHOTS



OXYMORON PHOTOGRAPHY (2)

Classic Superbike Racing Association

The bikes that Wayne Rainey, Eddie Lawson, Fred Merkel, Wes Cooley and Freddie Spencer rode in the glory days of Superbike racing are out racing again. “A lot of us started racing in the ‘80s when these bikes were originally on the track,” explains Kevin McKee, a spokesperson for the Classic Superbike Racing Association. “Our heroes raced these motorcycles. We are big fans of the bikes and riders of the classic Superbike era.”

The first AMA Superbikes — heavyweight 4-stroke motorcycles that were highly modified versions of bikes sold to ride on the street — went on the grid in 1976, with Reg Pridmore and his BMW taking home the No. 1 plate that year. For the first few years, the rules allowed 1,000cc 4-cylinder machines, but in 1983, the AMA limited 4-cylinder machines to 750cc. Other changes were made over the years, most notably green-lighting liquid-cooled engines. Eventually the AMA handed over racing management to a promoter, who mishandled the races. In 2015, Wayne Rainey’s organization, KRAVE, took over and has been working hard to restore the popularity of Superbike racing.

A lot of people miss the boom and howl of big 4-stroke air-cooled engines, and some folks in California decided to put the bikes from the first, glamorous years of Superbike racing back on the track. They started racing in the American Federation of Motorcyclists (the West Coast amateur racing association) vintage class.

“The CSRA formed in the spring of 2018, when the AFM approached some of us,” Kevin continues. “MotoAmerica wanted to put on a

race for vintage bikes at the Sears Point [Sonoma Raceway] venue and had reached out to the AFM to locate an appropriate vintage group. We decided to form CSRA, and put together a few rules that were based on the American Historic Racing Motorcycle Association (AHRMA) Superbike Heavyweight class, with some modifications to fit our vision. CSRA’s first-ever race was as a support class for MotoAmerica in August 2018.” To allow the big-bore Fours on the track, the Classic Superbike Racing Association cutoff point is 1982.

CSRA presently has a membership of more than 200, with about 40 currently active racers. Some of the bikes are former AMA National Superbike machines, others are clones, and some are stock bikes rebuilt to racing specification. They all go fast and sound great. Most racers run Hondas, Kawasakis and Suzukis, but there are two Moto Guzzis (paying homage to Dr. John and his 1987 Moto Guzzi racing effort), a BMW and a Ducati in the association. Some of the original Superbike riders are involved with the group, and privateer legend Dale Quarterly won the first event at Sonoma on his Kawasaki.

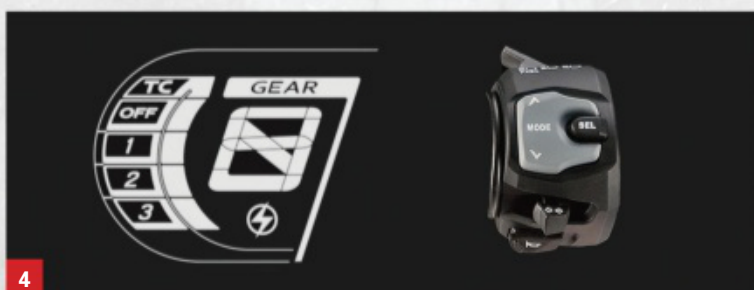
CSRA members participate throughout the year in many AHRMA and AFM races and vintage bike display events. “We just love racing and displaying our old Superbikes,” Kevin McKee says. “We want to promote vintage Superbikes, the people who raced them back in the day and vintage Superbike racing. We’d love to see a grid of 50 Superbikes in the near future.” For more information visit csra.us or join the association on Facebook. — Margie Siegal



Racer Terry Cheney, No. 132, racing his Honda at Sears Point.



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¹ The traction control system is not a substitute for the rider's throttle control. It cannot prevent loss of traction due to excessive speed when the rider enters a turn and/or applies the brakes. Neither can it prevent the front wheel from losing grip.

² Depending on road surface conditions, such as wet, loose, or uneven roads, braking distance for an ABS-equipped vehicle may be longer than for a vehicle not equipped with ABS. ABS cannot prevent wheel skidding caused by braking while cornering. Please drive carefully and do not overly rely on ABS.



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